The Encyclopedia of Neutrosophic Researchers

Florentin Smarandache
(founder and editor)

5th Volume
2023

Neutrosophic Science International Association

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The Encyclopedia of Neutrosophic Researchers

5th Volume

Global Knowledge
Miami, FL, USA

Neutrosophic Science International Association
Gallup, NM, USA

2023

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An Overview of Neutrosophic and Plithogenic Theories and Applications

This presentation is an Overview on the Foundation and Development of Neutrosophic Theories and their Applications for a period of more than two decades (1995-2023) since they were defined and studied, together with their applications, and links to many open-source articles and books that the attendees can download.

Neutrosophic Set is a Generalization of Intuitionist Fuzzy Set, Inconsistent Intuitionist Fuzzy Set (Picture Fuzzy Set, Ternary Fuzzy Set), Pythagorean Fuzzy Set (Atanassov's Intuitionist Fuzzy Set of second type), q-Rung Orthopair Fuzzy Set, Spherical Fuzzy Set, and n-HyperSpherical Fuzzy Set, while Neutrosophication is a Generalization of Regret Theory, Grey System Theory, and Three-Ways Decision.

https://arxiv.org/ftp/arxiv/papers/1911/1911.07333.pdf

http://fs.unm.edu/Raspunsatan.pdf

Zadeh introduced the degree of membership/truth (T) in 1965 and defined the fuzzy set.

Atanassov introduced the degree of nonmembership/falsehood (F) in 1986 and defined the intuitionistic fuzzy set.

Smarandache introduced the degree of indeterminacy/neutrality (I) as independent component in 1995 (published in 1998) and he defined the neutrosophic set on three components:

(T, I, F) = (Truth, Indeterminacy, Falsehood), where in general T, I, F are subsets of the interval [0, 1]; in particular T, I, F may be intervals, hesitant sets, single-values, etc.;

Indeterminacy (or Neutrality), as independent component from the truth and from the falsehood, is the main distinction between Neutrosophic Theories and other classical and fuzzy theory or fuzzy extension theories: http://fs.unm.edu/Indeterminacy.pdf

See F. Smarandache, Neutrosophy / Neutrosophic probability, set, and logic", Proquest, Michigan, USA, 1998,

https://arxiv.org/ftp/math/papers/0101/0101228.pdf

http://fs.unm.edu/eBook-Neutrosophics6.pdf ;

reviewed in Zentralblatt für Mathematik (Berlin, Germany): https://zbmath.org/?q=an:01273000

and cited by Denis Howe in The Free Online Dictionary of Computing, England, 1999.

Neutrosophic Set and Logic are generalizations of classical, fuzzy, and intuitionist fuzzy set and logic:

https://arxiv.org/ftp/math/papers/0404/0404520.pdf

https://arxiv.org/ftp/math/papers/0303/0303009.pdf

Etymology

The words "neutrosophy" and "neutrosophic" were coined/invented by F. Smarandache in his 1998 book.

Neutrosophy

A branch of philosophy, introduced by F. Smarandache in 1980, which studies the origin, nature, and scope of neutralities, as well as their interactions with different ideational spectra. Neutrosophy considers a proposition, theory, event, concept, or entity <A> in relation to its opposite <antiA>, and with their neutral <neutA>.

Neutrosophy (as dynamic of opposites and their neutrals) is an extension of the Dialectics and Yin Yang (which are the dynamic of opposites only).

Neutrosophy is the basis of neutrosophic set, neutrosophic logic, neutrosophic measure, neutrosophic probability, neutrosophic statistics etc.

https://arxiv.org/ftp/math/papers/0010/0010099.pdf

Neutrosophic Logic

Neutrosophic Logic is a general framework for unification of many existing logics, such as fuzzy logic (especially intuitionistic fuzzy logic), paraconsistent logic, intuitionist logic, etc. The main idea of NL is to characterize each logical statement in a 3D-Neutrosophic Space, where each dimension of the space represents respectively the truth (T), the falsehood (F), and the indeterminacy (I) of the statement under consideration, where T, I, F are standard or non-standard real subsets of]-0, 1+[with not necessarily any connection between them.

For software engineering proposals the classical unit interval [0, 1] may be used.

While Neutrosophic Probability and Statistics are generalizations of classical and imprecise probability and classical statistics respectively.

The Most Important Books and Papers on the Advancement of Neutrosophics

1980s - Foundation of Paradoxism that is an international movement in science and culture based on excessive use of contradictions, antitheses, oxymoron, and paradoxes [Smarandache]. During three decades (1980-2020) hundreds of authors from tens of countries around the globe contributed papers to 15 international paradoxist anthologies: http://fs.unm.edu/a/paradoxism.htm

1995-1998 – Smarandache extended the paradoxism (based on opposites) to a new branch of philosophy called Neutrosophy (based on opposites and their neutral), that gave birth to many scientific branches, such as: neutrosophic logic, neutrosophic set, neutrosophic probability and statistics, neutrosophic algebraic structures, and so on with multiple applications in all fields.

Neutrosophy is also an extension of the Dialectics (which is a particular case of Yin-Yang ancient Chinese philosophy), http://fs.unm.edu/Neutrosophy-A-New-Branch-of-Philosophy.pdf

introduced the neutrosophic set/logic/probability/statistics;

introduces the single-valued neutrosophic set (pp. 7-8);

https://arxiv.org/ftp/math/papers/0101/0101228.pdf (fourth edition)

http://fs.unm.edu/eBook-Neutrosophics6.pdf (online sixth edition)

1998, 20019 - Introduction of Nonstandard Neutrosophic Logic, Set, Probability

https://arxiv.org/ftp/arxiv/papers/1903/1903.04558.pdf

2002 – Introduction of corner cases of sets / probabilities / statistics / logics, such as:

- Neutrosophic intuitionistic set (different from intuitionist fuzzy set), neutrosophic paraconsistent set, neutrosophic faillibilist set, neutrosophic paradoxist set, neutrosophic pseudo-paradoxist set, neutrosophic tautological set, neutrosophic nihilist set, neutrosophic dialetheist set, neutrosophic trivialist set;

- Neutrosophic intuitionistic probability and statistics, neutrosophic paraconsistent probability and statistics, neutrosophic faillibilist probability and statistics, neutrosophic paradoxist probability and statistics, neutrosophic pseudo-paradoxist probability and statistics, neutrosophic tautological probability and statistics, neutrosophic nihilist probability and statistics, neutrosophic dialetheist probability and statistics,neutrosophic trivialist probability and statistics;

- Neutrosophic paradoxist logic (or paradoxism), neutrosophic pseudo-paradoxist logic (or neutrosophic pseudo-paradoxism), neutrosophic tautological logic (or neutrosophic tautologism):

https://arxiv.org/ftp/math/papers/0301/0301340.pdf

http://fs.unm.edu/DefinitionsDerivedFromNeutrosophics.pdf

2003 – Introduction by Kandasamy and Smarandache of Neutrosophic Numbers (a+bI, where I = literal indeterminacy, I2 = I, which is different from the numerical indeterminacy I = real set), I-Neutrosophic Algebraic Structures and Neutrosophic Cognitive Maps

https://arxiv.org/ftp/math/papers/0311/0311063.pdf

http://fs.unm.edu/NCMs.pdf

2005 - Introduction of Interval Neutrosophic Set/Logic

https://arxiv.org/pdf/cs/0505014.pdf

http://fs.unm.edu/INSL.pdf

2006 – Introduction of Degree of Dependence and Degree of Independence between the Neutrosophic Components T, I, F.

For single valued neutrosophic logic, the sum of the components is:

$0 \le t+i+f \le 3$ when all three components are independent;

$0 \le t+i+f \le 2$ when two components are dependent, while the third one is independent from them;

$0 \le t+i+f \le 1$ when all three components are dependent.

When three or two of the components T, I, F are independent, one leaves room for background incomplete information (sum < 1), paraconsistent and contradictory information (sum > 1), or complete information (sum = 1).

If all three components T, I, F are dependent, then similarly one leaves room for incomplete information (sum < 1), or complete information (sum = 1).

In general, the sum of two components x and y that vary in the unitary interval [0, 1] is:

$0 \le x + y \le 2 - d^{\circ}(x, y)$, where $d^{\circ}(x, y)$ is the degree of dependence between x and y, while $d^{\circ}(x, y)$ is the degree of independence between x and y.

Degrees of Dependence and Independence between Neutrosophic Components T, I, F are independent components, leaving room for incomplete information (when their superior sum < 1), paraconsistent and contradictory information (when the superior sum > 1), or complete information (sum of components = 1).

For software engineering proposals the classical unit interval [0, 1] is used.

https://doi.org/10.5281/zenodo.571359

http://fs.unm.edu/eBook-Neutrosophics6.pdf (p. 92)

http://fs.unm.edu/NSS/DegreeOfDependenceAndIndependence.pdf

2007 – The Neutrosophic Set was extended [Smarandache, 2007] to Neutrosophic Overset (when some neutrosophic component is > 1), since he observed that, for example, an employee working overtime deserves a degree of membership > 1, with respect to an employee that only works regular full-time and whose degree of membership = 1;

and to Neutrosophic Underset (when some neutrosophic component is < 0), since, for example, an employee making more damage than benefit to his company deserves a degree of membership < 0, with respect to an employee that produces benefit to the company and has the degree of membership > 0;

and to and to Neutrosophic Offset (when some neutrosophic components are off the interval [0, 1], i.e. some neutrosophic component > 1 and some neutrosophic component < 0).

Then, similarly, the Neutrosophic Logic/Measure/Probability/Statistics etc. were extended to respectively Neutrosophic Over-/Under-/Off- Logic / Measure / Probability / Statistics etc.

https://arxiv.org/ftp/arxiv/papers/1607/1607.00234.pdf

http://fs.unm.edu/NeutrosophicOversetUndersetOffset.pdf

http://fs.unm.edu/SVNeutrosophicOverset-JMI.pdf

http://fs.unm.edu/IV-Neutrosophic-Overset-Underset-Offset.pdf

http://fs.unm.edu/NSS/DegreesOf-Over-Under-Off-Membership.pdf

2007 – Smarandache introduced the Neutrosophic Tripolar Set and Neutrosophic Multipolar Set and consequently the Neutrosophic Tripolar Graph and Neutrosophic Multipolar Graph

http://fs.unm.edu/eBook-Neutrosophics6.pdf (p. 93)

http://fs.unm.edu/IFS-generalized.pdf

2009 – Introduction of N-norm and N-conorm

https://arxiv.org/ftp/arxiv/papers/0901/0901.1289.pdf

http://fs.unm.edu/N-normN-conorm.pdf

2013 - Development of Neutrosophic Measure and Neutrosophic Probability

(chance that an event occurs, indeterminate chance of occurrence, chance that the event does not occur)

https://arxiv.org/ftp/arxiv/papers/1311/1311.7139.pdf

http://fs.unm.edu/NeutrosophicMeasureIntegralProbability.pdf

2013 – Smarandache Refined / Split the Neutrosophic Components (T, I, F) into Neutrosophic SubComponents (T1, T2, ...; I1, I2, ...; F1, F2, ...):

https://arxiv.org/ftp/arxiv/papers/1407/1407.1041.pdf

http://fs.unm.edu/n-ValuedNeutrosophicLogic-PiP.pdf

2014 – Introduction of the Law of Included Multiple-Middle (as extension of the Law of Included Middle)

(<A>; <neutA1>, <neutA2>, …; <antiA>)

http://fs.unm.edu/LawIncludedMultiple-Middle.pdf

2014 - Development of Neutrosophic Statistics (indeterminacy is introduced into classical statistics with respect to any data regarding the sample / population, probability distributions / laws / graphs / charts etc., with respect to the individuals that only partially belong to a sample / population, and so on):

https://arxiv.org/ftp/arxiv/papers/1406/1406.2000.pdf

http://fs.unm.edu/NeutrosophicStatistics.pdf

2015 - Introduction of Neutrosophic Precalculus and Neutrosophic Calculus

https://arxiv.org/ftp/arxiv/papers/1509/1509.07723.pdf

http://fs.unm.edu/NeutrosophicPrecalculusCalculus.pdf

2015 – Refined Neutrosophic Numbers (a+ b1I1 + b2I2 + … + bnIn), where I1, I2, …, In are SubIndeterminacies of Indeterminacy I;

2015 – (t,i,f)-neutrosophic graphs;

2015 - Thesis-Antithesis-Neutrothesis, and Neutrosynthesis, Neutrosophic Axiomatic System, neutrosophic dynamic systems, symbolic neutrosophic logic, (t, i, f)-Neutrosophic Structures, I-Neutrosophic Structures, Refined Literal Indeterminacy, Quadruple Neutrosophic Algebraic Structures, Multiplication Law of SubIndeterminacies, and Neutrosophic Quadruple Numbers of the form a + bT + cI + dF, where T, I, F are literal neutrosophic components, and a, b, c, d are real or complex numbers:

https://arxiv.org/ftp/arxiv/papers/1512/1512.00047.pdf

http://fs.unm.edu/SymbolicNeutrosophicTheory.pdf

2015 – Introduction of the SubIndeterminacies, for k {0, 1, 2, …, n-1}, into the ring of modulo integers Zn - called natural neutrosophic indeterminacies (Vasantha-Smarandache)

http://fs.unm.edu/MODNeutrosophicNumbers.pdf

2015 – Introduction of Neutrosophic Crisp Set and Topology (Salama & Smarandache)

http://fs.unm.edu/NeutrosophicCrispSetTheory.pdf

2016 – Introduction of Neutrosophic Multisets (as generalization of classical multisets)

http://fs.unm.edu/NeutrosophicMultisets.htm

2016 – Introduction of Neutrosophic Triplet Structures and m-valued refined neutrosophic triplet structures [Smarandache - Ali]

http://fs.unm.edu/NeutrosophicTriplets.htm

2016 – Introduction of Neutrosophic Duplet Structures

http://fs.unm.edu/NeutrosophicDuplets.htm

2017 - 2020 - Neutrosophic Score, Accuracy, and Certainty Functions form a total order relationship on the set of (single-valued, interval-valued, and in general subset-valued) neutrosophic triplets (T, I, F); and these functions are used in MCDM (Multi-Criteria Decision Making): http://fs.unm.edu/NSS/TheScoreAccuracyAndCertainty1.pdf

2017 - In biology Smarandache introduced the Theory of Neutrosophic Evolution: Degrees of Evolution, Indeterminacy or Neutrality, and Involution

http://fs.unm.edu/neutrosophic-evolution-PP-49-13.pdf

2017 - Introduction by F. Smarandache of Plithogeny (as generalization of Yin-Yang, Dialectics, and Neutrosophy), and Plithogenic Set / Plithogenic Logic as generalization of MultiVariate Logic / Plithogenic Probability and Plithogenic Statistics as generalizations of MultiVariate Probability and Statistics (as generalization of fuzzy, intuitionistic fuzzy, neutrosophic set/logic/probability/statistics):

https://arxiv.org/ftp/arxiv/papers/1808/1808.03948.pdf

http://fs.unm.edu/Plithogeny.pdf

2017 - Enunciation of the Law that: It Is Easier to Break from Inside than from Outside a Neutrosophic Dynamic System (Smarandache - Vatuiu):

http://fs.unm.edu/EasierMaiUsor.pdf

2018 - 2022 - Introduction of new types of soft sets: HyperSoft Set, IndetermSoft Set, IndetermHyperSoft Set, TreeSoft Set:

http://fs.unm.edu/TSS/

2018 – Introduction to Neutrosophic Psychology (Neutropsyche, Refined Neutrosophic Memory: conscious, aconscious, unconscious, Neutropsychic Personality, Eros / Aoristos / Thanatos, Neutropsychic Crisp Personality):

http://fs.unm.edu/NeutropsychicPersonality-ed3.pdf

2019 - Theory of Spiral Neutrosophic Human Evolution (Smarandache - Vatuiu):

http://fs.unm.edu/SpiralNeutrosophicEvolution.pdf

2019 - Introduction to Neutrosophic Sociology (Neutrosociology) [neutrosophic concept, or (T, I, F)-concept, is a concept that is T% true, I% indeterminate, and F% false]:

http://fs.unm.edu/Neutrosociology.pdf

2019 - Refined Neutrosophic Crisp Set

http://fs.unm.edu/RefinedNeutrosophicCrispSet.pdf

2019-2022 - Introduction of new types of topologies: Refined Neutrosophic Topology, Refined Neutrosophic Crisp Topology, NeutroTopology, AntiTopology, SuperHyperTopology, and Neutrosophic SuperHyperTopology:

http://fs.unm.edu/TT/

2019 - Generalization of the classical Algebraic Structures to NeutroAlgebraic Structures (or NeutroAlgebras)

{whose operations and axioms are partially true, partially indeterminate, and partially false} as extensions of Partial Algebra, and to AntiAlgebraic Structures (or AntiAlgebras) {whose operations and axioms are totally false}.

And, in general, he extended any classical Structure, in no matter what field of knowledge, to a NeutroStructure and an AntiStructure:

http://fs.unm.edu/NA/NeutroAlgebra.htm

http://fs.unm.edu/NA/NeutroAlgebra.pdf

As alternatives and generalizations of the Non-Euclidean Geometries he introduced in 2021 the NeutroGeometry & AntiGeometry. While the Non-Euclidean Geometries resulted from the total negation of only one specific axiom (Euclid's Fifth Postulate), the AntiGeometry results from the total negation of any axiom and even of more axioms from any geometric axiomatic system (Euclid's, Hilbert's, etc.), and the NeutroAxiom results from the partial negation of one or more axioms [and no total negation of no axiom] from any geometric axiomatic system.

2019-2020 - Extension of HyperGraph to n-SuperHyperGraph

http://fs.unm.edu/NSS/n-SuperHyperGraph-n-HyperAlgebra.pdf

2020 - Introduction to Neutrosophic Genetics:
http://fs.unm.edu/NeutrosophicGenetics.pdf

2021 - As alternatives and generalizations of the Non-Euclidean Geometries, Smarandache introduced in 2021 the NeutroGeometry & AntiGeometry. While the Non-Euclidean Geometries resulted from the total negation of only one specific axiom (Euclid's Fifth Postulate), the AntiGeometry results from the total negation of any axiom and even of more axioms from any geometric axiomatic system (Euclid's, Hilbert's, etc.), and the NeutroAxiom results from the partial negation of one or more axioms [and no total negation of no axiom] from any geometric axiomatic system: http://fs.unm.edu/NSS/NeutroGeometryAntiGeometry31.pdf

Real Examples of NeutroGeometry and AntiGeometry:
http://fs.unm.edu/NSS/ExamplesNeutroGeometryAntiGeometry35.pdf

2021 - Introduction of Plithogenic Logic as a generalization of MultiVariate Logic
http://fs.unm.edu/NSS/IntroductionPlithogenicLogic1.pdf

2021 - Introduction of Plithogenic Probability and Statistics as generalizations of MultiVariate Probability and Statistics respectively
http://fs.unm.edu/NSS/PlithogenicProbabilityStatistics20.pdf

2022 - SuperHyperAlgebra & Neutrosophic SuperHyperAlgebra
http://fs.unm.edu/SuperHyperAlgebra.pdf

2022 - SuperHyperGraph, Neutrosophic SuperHyperGraph
http://fs.unm.edu/NSS/n-SuperHyperGraph.pdf

2022 - SuperHyperFunction, SuperHyperTopology
http://fs.unm.edu/NSS/SuperHyperFunction37.pdf

2022 - IndetermSoft Set, IndetermHyperSoft Set
http://fs.unm.edu/NSS/IndetermSoftIndetermHyperSoft38.pdf

2022 - TreeSoft Set
http://fs.unm.edu/NSS/IndetermSoftSet-TreeSoftSet59.pdf

2023 - Symbolic Plithogenic Algebraic Structures built on the set of Symbolic Plithogenic Numbers of the form a0 + a1P1 + a2P2 + ... + anPn where the multiplication Pi·Pj is based on the prevalence order and absorbance law
http://fs.unm.edu/NSS/SymbolicPlithogenicAlgebraic39.pdf

Applications

Artificial Intelligence, Information Systems, Computer Science, Cybernetics, Theory Methods, Mathematical Algebraic Structures, Applied Mathematics, Automation, Control Systems, Big Data, Engineering, Electrical, Electronic, Philosophy, Social Science, Psychology, Biology, Biomedical, Genetics, Engineering, Medical Informatics, Operational Research, Management Science, Imaging Science, Photographic Technology, Instruments, Instrumentation, Physics, Optics, Economics, Mechanics, Neurosciences, Radiology Nuclear, Medicine, Medical Imaging, Interdisciplinary Applications, Multidisciplinary Sciences etc. [Xindong Peng and Jingguo Dai, A bibliometric analysis of neutrosophic set: two decades review from 1998 to 2017, Artificial Intelligence Review, Springer, 18 August 2018; http://fs.unm.edu/BibliometricNeutrosophy.pdf]

Important Neutrosophic Researchers:

There are about 7,000 neutrosophic researchers, within 89 countries around the globe, that have produced about 4,000 publications and tenths of PhD and MSc theses, within more than two decades. Many neutrosophic researchers got specialized into various fields of neutrosophics:

Xiaohong Zhang & Yingcang Ma (neutrosophic triplet and quadruple algebraic structures), Yanhui Guo (neutrosophic image processing), Jun Ye & Peide Liu & Jianqiang Wang (neutrosophic optimization), Xindong Peng & Jingguo Dai (neutrosophic bibliometrics), Jianqiang Wang, Guiwu Wei, Donghai Liu, Xiaohong Chen, Dan Peng, Jiongmei Mo, Han-Liang Huang, Victor Chang, Hongjun Guan, Shuang Guan, Aiwu Zhao, Wen-Hua Cui, Xiaofei Yang, Xin Zhou, G.L. Tang, W.L. Liu, Wen Jiang, Zihan Zhang, Xinyang Deng, Changxing Fan, Sheng Feng, En Fan, Keli Hu, Xingsen Li, Xin Zhou, Ping Li;

Rajab Ali Borzooei & Young Bae Jun (neutrosophic BCK/BCI-algebras), Arsham Borumand Saeid (neutrosophic structures), Saied Jafari (neutrosophic topology), Maikel Leyva-Vazquez (neutrosophic cognitive maps);

Amira S. Ashour, Muhammad Aslam (neutrosophic statistics), Nguyen Xuan Thao (neutrosophic similarity measures), Le Hoang Son, Vakkas Ulucay & Memet Sahin (neutrosophic quadruple structures), Irfan Deli, Madad Khan (neutrosophic algebraic structures), Said Broumi & Muhammad Akram (neutrosophic graphs), Mohamed Abdel-Baset (neutrosophic linear and non-linear programming), Ahmed Mostafa Khalil, Ahmed Salama (neutrosophic crisp topology), etc.

Neutrosophic Journals

Neutrosophic Sets and Systems (NSS) international journal started in 2013 and it is indexed by Scopus, Web of Science (ESCI), DOAJ, Index Copernicus, Redalyc - Universidad Autonoma del Estado de Mexico (IberoAmerica), Publons, CNKI (Beijing, China), Chinese Baidu Scholar, etc. (http://fs.unm.edu/NSS/).

Submit papers on neutrosophic set/logic/probability/statistics etc. and their applications through our OJS system: http://fs.unm.edu/NSS2/index.php/111/submissions

International Journal of Neutrosophic Science (IJNS, in SCOPUS): http://americaspg.com/journals/show/21

Neutrosophic Computing and Machine Learning (NCML), in Spanish: http://fs.unm.edu/NCML/

Neutrosophic Knowledge (NK), in English and Arabic: http://fs.unm.edu/NK/

Encyclopedia of Neutrosophic Researchers

The authors who have published or presented papers on neutrosophics and are not included in the Encyclopedia of Neutrosophic Researchers (ENR), vols. 1, 2, 3, and 4:

http://fs.unm.edu/EncyclopediaNeutrosophicResearchers.pdf
http://fs.unm.edu/EncyclopediaNeutrosophicResearchers2.pdf
http://fs.unm.edu/EncyclopediaNeutrosophicResearchers3.pdf
http://fs.unm.edu/EncyclopediaNeutrosophicResearchers4.pdf

are pleased to send their CV, photo, and List of Neutrosophic Publications to smarand@unm.edu in order to be included into the next volume of ENR.

References

University of New Mexico (USA) web sites:

http://fs.unm.edu/neutrosophy.htm
http://fs.unm.edu/NSS/Articles.htm
http://fs.unm.edu/CR/CR-Articles.htm
http://fs.unm.edu/NCML/Articles.htm
http://fs.unm.edu/NK/Articles.htm

Mohammad Abobala

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Profile

BA in Mathematics from the Department of Mathematics in Tishreen University (2016). Working on a Master's degree in the Group Theory under the supervision of prof. Hasan Sankari.

Research Interests

Group Theory, Neutrosophic Theory, Algebraic Game Theory, Number Theory.

List of Publications in Neutrosophics

Abobala, M., "AH-Subspaces in Neutrosophic Vector Spaces", *International Journal of Neutrosophic Science*, Vol. 6, pp. 80-86, 2020

Abobala, M., "A Study of AH-Substructures in n-Refined Neutrosophic Vector Spaces", *International Journal of Neutrosophic Science*, Vol. 9, pp.74-85, 2020.

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Abobala, M., "n-Refined Neutrosophic Groups I. *International Journal of Neutrosophic Science*", Vol. 0, pp. 27-34, 2019.

Abobala, M., " Classical Homomorphisms Between n-refined Neutrosophic Rings", *International Journal of Neutrosophic Science*, Vol. 7, pp. 74-78, 2020.

Smarandache F., and Abobala, M., " n-Refined Neutrosophic Vector Spaces", *International Journal of Neutrosophic Science*, Vol. 7, pp. 47-54, 2020.

Sankari, H., and Abobala, M., "Neutrosophic Linear Diophantine Equations With two Variables", *Neutrosophic Sets and Systems*, Vol. 38, 2020.

Sankari, H., and Abobala, M., "Solving Three Conjectures About Neutrosophic Quadruple Vector Spaces", *Neutrosophic Sets and Systems*, Vol. 38, 2020.

Sankari, H., and Abobala, M., "n-Refined Neutrosophic Modules", *Neutrosophic Sets and Systems*, Vol. 36, 2020.

Smarandache, F., and Abobala, M., "n-Refined neutrosophic Rings", *International Journal of Neutrosophic Science*, Vol. 7, 2020.

Sankari, H., and Abobala, M., "AH-Homomorphisms in Neutrosophic Rings and Refined Neutrosophic Rings", *Neutrosophic Sets and Systems*, Vol. 38, pp. 101-112, 2020.

Abobala, M., "n-Refined Neutrosophic Groups II". *International Journal of Neutrosophic Science*, Vol. 0, 2019.

Abobala, M., "*n*-Cyclic Refined Neutrosophic Algebraic Systems Of Sub-Indeterminacies, An Application To Rings and Modules", *International Journal of Neutrosophic Science*, Vol. 12, pp. 81-95, 2020.

Abobala, M., "On Some Neutrosophic Algebraic Equations", *Journal of New Theory*. (accepted).

Abobala, M., "On Some Special Elements in Neutrosophic Rings and Refined Neutrosophic Rings", *Journal of New Theory* (accepted).

Usama Afzal

PhD Candidate
School of Microelectronics
Tianjin University
Tianjin / PR CHINA

Profile

Bachelor's Degree from the Centre for High Energy Physics at the University of Punjab, Lahore, Pakistan. Master's degree in Physics from the Department of Physics at the University of Education, Lahore, Pakistan. Ph.D. candidate in Microelectronics.

Primary research revolves around the fabrication of cutting-edge sensors capable of detecting various environmental parameters, such as humidity and temperature, among others. Proficient in utilizing advanced characterization techniques, including X-ray diffraction (XRD), scanning electron microscopy (SEM), UV-visible spectroscopy (UV-Vis), Raman spectroscopy, and X-ray photoelectron spectroscopy (XPS). Significant contributions to the realm of low-power transceivers and wireless sensing.

Research Interests

Material Science, Microelectronics, Nanotechnology, Solid-State Electronics.

Neutrosophic Research

Pioneering the use of neutrosophic statistics analysis in material science. Innovative application of this approach proved to be highly valuable in analyzing sensing data, conductor data, and other pertinent aspects, further contributing to the understanding and enhancement of materials' properties and functionalities.

List of Publications in Neutrosophics

Papers

Afzal, Usama and Ahmad, Naveed and Zafar, Qayyum and Aslam, Muhammad (2021). "Fabrication of a Surface Type Humidity Sensor Based on Methyl Green Thin Film, with Analysis of Capacitance and Resistance through Neutrosophic Statistics", *Advance RSC*, 11(61): p. 38674–38682. http://dx.doi.org/10.1039/D1RA07087H

Afzal, U., Alrweili, H., Naveed, A., & Aslam, M. (2021). "Neutrosophic Statistical Analysis of Resistance Depending on the Temperature Variance of Conducting Material", *Scientific Reports,* 11(1). https://doi.org/10.1038/s41598-021-03347-z

Afzal, U. Aslam, M. and AL-Marshadi, A. H. (2022). "Analyzing Imprecise Graphene Foam Resistance Data", *Materials Research Express*. https://doi.org/10.1088/2053-1591/ac639e

Afzal, U., Afzal, J. and Aslam, M. (2022) “Analyzing the Imprecise Capacitance and Resistance Data of Humidity Sensors”, *Sensors and Actuators B: Chemical*. https://doi.org/10.1016/j.snb.2022.132092

Afzal, U., Aslam, M. and Afzal, F., Maryam, K. (2022) “Fabrication of Flexible Temperature Sensor to Explore the Indeterministic Data Analysis for Robot as an Application of Internet of Things”, DOI: 10.1039/d2ra03015b RSC Advance

Afzal, U. at el. “Fabrication of a Graphene Sensor to detect the humidity and temperature of Metal Body with Imprecise Data Analysis.” DOI: 10.1039/d2ra03474c RSC Advances

Afzal U. at el “Fabrication of Tactile Sensor based on the Indium Zinc Oxide (IZO) with Imprecise Data Analysis.” DOI: 10.1021/acsomega.2c04156 ACS Omega

Book Chapters

Afzal, Usama, and Muhammad Aslam. "Use of neutrosophic statistics to analyze the measured data of diabetes." *Cognitive Intelligence with Neutrosophic Statistics in Bioinformatics*. Academic Press, 2023. 119-135.

Afzal, Usama, and Muhammad Aslam. "Analysis of changes in blood pressure of women during pregnancy through neutrosophic statistics." *Cognitive Intelligence with Neutrosophic Statistics in Bioinformatics*. Academic Press, 2023. 137-152.

Afzal, Usama, and Muhammad Aslam. "Neutrosophic statistical analysis of changes in blood pressure, pulse rate and temperature of human body due to COVID-19." *Cognitive Intelligence with Neutrosophic Statistics in Bioinformatics*. Academic Press, 2023. 153-172.

Afzal, Usama, and Muhammad Aslam. "A study of human respiration rate through neutrosophic statistics." *Cognitive Intelligence with Neutrosophic Statistics in Bioinformatics*. Academic Press, 2023. 173-187.

Yaman Akbulut

Informatics Lecturer
Department of Informatics
Firat University
Elazig / TURKEY

Profile

Received the PhD degree in Electrical and Electronics Engineering from Firat University, Elazig, Turkey, in 2018. Teaching in the Department of Informatics at Firat University since 2002. Published 15 journal papers and four book chapters, ans also presented 16 conference papers.

Research Interests

Image Processing, Image Segmentation, Neutrosophic Theory, Pattern Recognition.

Neutrosophic Research

Started to study on neutrosophic set and theory in 2016 and contributed five journal papers and one book chapter to the neutrosophic research. Completed his PhD thesis on Neutrosopic Logic in 2018.

List of Publications in Neutrosophics

Papers

Guo, Y., Akbulut, Y., Şengür, A., Xia, R., & Smarandache, F. "An efficient image segmentation algorithm using neutrosophic graph cut." *Symmetry*, 9(9), 185, 2017.

Akbulut, Y., Sengur, A., Guo, Y., & Smarandache, F. "Ns-k-nn: Neutrosophic set-based k-nearest neighbors classifier." *Symmetry*, 9(9), 179, 2017.

Akbulut, Y., Şengür, A., Guo, Y., & Smarandache, F. "A novel neutrosophic weighted extreme learning machine for imbalanced data set." *Symmetry*, 9(8), 142, 2017.

Akbulut, Y., Şengür, A., Guo, Y., & Polat, K. "KNCM: Kernel neutrosophic c-means clustering." *Applied Soft Computing*, 52, 714-724, 2017.

Guo, Y., Şengür, A., Akbulut, Y., & Shipley, A. "An effective color image segmentation approach using neutrosophic adaptive mean shift clustering." *Measurement*, 119, 28-40, 2018.

Chapters in Books

Sengür, A., Budak, U., Akbulut, Y., Karabatak, M., Tanyildizi, E., "A Survey on Neutrosophic Medical Image Segmentation." In: *Neutrosophic Set in Medical Image Analysis*, Editors: Yanhui Guo, Amira Ashour, 2019.

Thesis

Akbulut, Y. "Novel applications of neutrosophic logic in the fields of image segmentation and pattern recognition." *PhD Thesis* at the Institute of Science and Technology, Firat University, Elazig, Turkey, 2018.

Yaser Ahmad Alhasan

Researcher
Prince Sattam bin Abdulaziz University
Alkharj / SAUDI ARABIA

Profile

Master of Mathematical Analysis, AL-Baath University (2014/2015). Diploma of Educational Habilitation, Aleppo University (2009/2010). BA in Mathematics, Al-Furat University (2007/2008). Under preparation for Ph.D.

Research Interests

Applications of Neutrosophic Logic in mathematical analysis, algebra and statistics.

List of Publications in Neutrosophics

"The General Exponential form of a Neutrosophic Complex Number". *International Journal of Neutrosophic Science*. Volume 11, Issue 2, 100-107, 2020.

"Concepts of Neutrosophic Complex Numbers". *International Journal of Neutrosophic Science*. Volume 8, Issue 1, 09-18, 2020.

"Types of System of the neutrosophic linear equations and Cramer's rule". *Neutrosophic Sets and Systems*. Volume 45, 2021, Pages 402-413.

"The neutrosophic integrals by parts". *Neutrosophic Sets and Systems*. Volume 45, 2021, Pages 306-319.

"The neutrosophic integrals and integration methods". *Neutrosophic Sets and Systems*. Volume 43, 2021, Pages 290-301.

"Neutrosophic differential equations that translate into linear". *International Journal of Neutrosophic Science*. Volume 15, Issue 1, 29-42, 2021.

"The neutrosophic integrals by partial fraction". *Neutrosophic Sets and Systems*, 49, 438-457, 2022.

"The neutrosophic differentials calculus". *Neutrosophic Sets and Systems*, 49, 357-374, 2022.

"The definite neutrosophic integrals and its applications". *Neutrosophic Sets and Systems*, 49, 277-293, 2022.

"The Neutrosophic Limits". *Neutrosophic Sets and Systems*. Volume 53, 367-381, 2023.

"The Neutrosophic Hyperbolic Functions". *International Journal of Neutrosophic Science*. Volume 20, Issue 3, 33-44, 2023.

"The Integration of Rational and Irrational Neutrosophic Functions". *International Journal of Neutrosophic Science*. Volume 20, Issue 3, 45-64, 2023.

"The equations of neutrosophic straight line and neutrosophic circle". *Neutrosophic Sets and Systems*. Volume 53, 2023, 331-343.

"On the Split-Complex Neutrosophic Numbers and Their Algebraic Properties". *International Journal of Neutrosophic Science*. Volume 20, Issue 3, 25-32, 2023.

"On the Solutions of Fermat's Diophantine Equation in 2-cyclic Refined Neutrosophic Ring of Integers". *International Journal of Neutrosophic Science*. Volume 20, Issue 3, 08-14, 2023.

"On Symbolic 2-Plithogenic Real Matrices and Their Algebraic Properties". *International Journal of Neutrosophic Science*. Volume 21, Issue 1, 96-104, 2023.

"On Some Novel Results About Weak Fuzzy Complex Matrices". *International Journal of Neutrosophic Science*. Volume 21, Issue 1, 134-140, 2023.

"On a Novel Security Algorithm for the Encryption of 3×3 Fuzzy Matrices with Rational Entries Based on The Symbolic 2-Plithogenic Integers and El-Gamal Algorithm". *International Journal of Neutrosophic Science*. Volume 21, Issue 1, 88-95, 2023.

"Convert between neutrosophic complex numbers forms". *Neutrosophic Sets and Systems*, Vol. 56, 2023, 20-30.

Priya Ambilkar

PhD Student
Department of Operations and Supply Chain Management
National Institute of Industrial Engineering
Mumbai / INDIA

Profile

Doctoral Research Fellow at the National Institute of Industrial Engineering (NITIE), Mumbai, India. Works in the Operations and Supply Chain Management (O&SCM) area. Completed her M.E. in CAD/CAM and Robotics from the University of Mumbai in 2017.

Research Interests

Additive Manufacturing, Product Return Management, Supply Chain Management, Supply Chain Resilience, Carbon Neutrality, Multi-Criteria Decision Making, Optimization, Machine Learning.

Neutrosophic Research

Developed together with Vishwas Dohale a Neutrosophic Interpretive Structural Modelling (N-ISM) of MCDM method Interpretive structural modelling (ISM) by integrating it with Neutrosophic Set.

List of Publications in Neutrosophics

Papers

Dohale, Vishwas, Priya Ambilkar, Ashwani Kumar, Sachin Kumar Mangla, Vijay Bilolikar. 2023. "Analyzing the Enablers of Circular Supply Chain Using Neutrosophic-ISM Method: Lessons from the Indian Apparel Industry." *International Journal of Logistics Management* 34 (3): 611–643. DOI: 10.1108/IJLM-03-2022-0141

Dohale, Vishwas, Priya Ambilkar, Angappa Gunasekaran, Vijay Bilolikar. 2022. "Examining the Barriers to Operationalization of Humanitarian Supply Chains: Lessons Learned from COVID-19 Crisis." *Annals of Operations Research*, May. DOI: 10.1007/s10479-022-04752-x

Work in progress

Priya Ambilkar, Priyanka Verma, Debabrata Das. "Sustailient Supplier Selection Using Neutrosophic Best-worst Approach: A Case Study of Additively Manufactured Trinkets".

Dohale Vishwas, Priya Ambilkar, Vijay Bilolikar, Balkrishna Eknath Narkhede, Ashwani Kumar, Anil Kumar. "Evaluating Circular Economy and Smart Technology Adoption Barriers in the Indian Textile and Apparel Industries using Neutrosophic ISM".

Dohale Vishwas, Akarte Milind, Verma Priyanka, Ambilkar Priya, "Quantifying the Congruence of Process Choice Criteria with Traditional and Additive Manufacturing Systems: A Research Framework".

Adnan Amin

Statistics Lecturer
Department of Mathematics and Statistics
Hazara University
Mansehra / PAKISTAN

Profile

Bachelor of Studies in Statistics from Hazara University Mansehra, Pakistan in 2018, and also have an additional degree master of arts in economics from Abbottabad University of Science and Technology, Pakistan in 2021. Master of Philosophy in Statistics with research topic "Neutrosophic Lognormal Distribution: Properties and Its Applications (NLD)" from Islamia College Peshawar, Pakistan in 2022. Currently serving as a lecturer in the Department of Mathematics and Statistics, Hazara University Mansehra, Pakistan.

Neutrosophic Research

His neutrosophic researches are focused on neutrosophy, neutrosophic statistics, neutrosophic probability distribution, neutrosophic fuzzy set, neutrosophic set and neutrosophic logic. Currently working on neutrosophic probability distribution.

Research Interests

Neutrosophy; Neutrosophic Statistics; Statistical Quality Control, Econometrics, Bayesian Estimation, Biostatistics.

List of Publications in Neutrosophics

Salem, S., Khan, Z., Ayed, H., Brahmia, A., Amin, A. "The Neutrosophic Lognormal Model in Lifetime Data Analysis: Properties and Applications." *Journal of Function Spaces*, 2021.

Khan, Z., Amin, A., Khan, S. A., & Gulistan, M. "Statistical Development of the Neutrosophic Lognormal Model with Application to Environmental Data." *Neutrosophic Sets and Systems*, 2021.

Amr Mohamed El Rawy

Assistant Professor
Department of Mathematics
Faculty of Science
South Valley University
Qena / EGYPT

Profile

Ph.D. degree in Mathematics from South Valley University, Faculty of Science, Qena, Egypt. Assistant Professor in the Department of Mathematics at the Faculty of Science, South Valley University.

Published research articles in international journals in mathematical sciences. Reviewed several research papers in mathematical journals.

Research Interests

Ring Theory, Matrix Theory, Fuzzy Algebraic Structures, Neutrosophic Research.

List of Publications in Neutrosophics

Elrawy, A. (2022). "The neutrosophic vector spaces-another approach." *Neutrosophic Sets and Systems*, vol. 51, 484-494.

Saleem, M. A., Abdalla, M., & Elrawy, A. (2022). "On a Matrix over NC and Multiset NC Semigroups." *Journal of Mathematics*, 2022.

Omran, S., & Elrawy, A. (2021). "Continuous and bounded operators on neutrosophic normed spaces." *Neutrosophic Sets and Systems*, 46, 276-289.

Abdulrahman Astambli

Graduate Student
Department of Mathematical Statistics
Faculty of Science
University of Aleppo
Aleppo / SYRIA

Profile

MSc in Mathematical Statistics and Programming, Department of Mathematical Statistics, Faculty of Science, University of Aleppo, 2020-2023. BSc in Mathematical Statistics, Department of Mathematical Statistics, Faculty of Science, University of Aleppo, 2014-2018.

Research Interests

Probability Theory, Distributions Theory, Neutrosophic Probability, Neutrosophic Statistics, Machine Learning.

List of Publications in Neutrosophics

Abdulrahman Astambli, Mohamed Bisher Zeina, Yasin Karmouta. "On Some Estimation Methods of Neutrosophic Continuous Probability Distributions Using One-Dimensional AH-Isometry." *Neutrosophic Sets and Systems*, 53, 2023.

Abdulrahman Astambli, Mohamed Bisher Zeina, Yasin Karmouta, "Algebraic Approach to Neutrosophic Confidence Intervals." *Journal of Neutrosophic and Fuzzy Systems*, 5(2), 8-22, 2023.

Halis Aygün

Professor
Department of Mathematics
Kocaeli University
Umuttepe Campus
İzmit, Kocaeli / TURKEY

Profile

BS and MS in the Department of Mathematics from Karadeniz Technical University, Turkey. Ph.D. in the Department of Mathematics, City University, London. Currently, Professor in the Department of Mathematics at the University of Kocaeli. Published more than 70 journal papers and more than 70 top conference papers. Acts as a member of the editorial board of international journals and a reviewer for top journals and conferences. Supervised six Ph.D. students and seven Master's students.

Research Interests

General Topology, Soft Set Theory, Soft Topology, Soft Computing, Lattice Theory, Fuzzy Set Theory, Fuzzy Topology, Fixed Point Theory, Decision-Making Theory.

List of Publications in Neutrosophics

Papers

Çetkin, V., & Aygün, H. (2015). "An approach to neutrosophic subgroup and its fundamental properties." *Journal of Intelligent & Fuzzy Systems*, 29(5), 1941-1947.

Cetkin, V., Varol, B. P., & Aygün, H. (2017). "On neutrosophic submodules of a module." *Hacettepe Journal of Mathematics and Statistics*, 46(5), 791-799.

Cetkin, V., & Aygün, H. (2018). "An approach to neutrosophic ideals." *Universal Journal of Mathematics and Applications*, 1(2), 132-136.

Varol, B. P., Cetkin, V., & Aygun, H. (2019). "A new view on neutrosophic matrix." *Journal of Hyperstructures*, 8(1), 48-57.

Çetkin, V., & Aygün, H. (2019). "An approach to neutrosophic subrings." *Sakarya University Journal of Science*, 23(3), 472-477.

Al-Saadi, H. S., Aygün, H., & Al-Omari, A. (2020). "Some notes on soft hyperconnected spaces." *The Journal of Analysis*, 28, 351-362.

Cetkin, V., Pazar Varol, B. & Aygün, H. (2021). "An algebraic perspective on neutrosophic sets: fields and linear spaces." *Journal of Linear and Topological Algebra*, 10(03), 187-198.

Conferences

Pazar Varol, B., Çetkin, V. & Aygün, H., "A note on neutrosophic field", presented at the International Conference on Mathematics and Engineering, 2017.

Pazar Varol, B., Çetkin, V. & Aygün, H., "Some results on neutrosophic matrix", presented at the International Conference on Mathematics and Engineering, 2017.

Pazar Varol, B., Çetkin, V. & Aygün, H., "On Neutrosophic Linear Spaces", presented at the 13th Algebraic Hyperstructures and its Applications Conference, 2017.

Pazar Varol, B., Çetkin, V. & Aygün, H., "A note on neutrosophic field", presented at the International Conference on Mathematics and Engineering, 2017.

Cetkin, V., & Aygun, H., "A note on neutrosophic subrings of a ring." In 5th International Eurasian Conference on Mathematical Sciences and Applications, 2016 (pp. 16-19).

Derya Bakbak

Associate Professor
Faculty of Engineering and Architecture
Gaziantep University
Gaziantep / TURKEY

Profile

MS degree from the Gaziantep University (2007-2011). PhD degree from the Gaziantep University (2011-2015). Associate professor in the field of Engineering and Architecture since 2020. Worked at faculty of Architecture at Hasan Kalyoncu University (2017-2018). Innovative researcher in decision making and optimization in uncertain environment, namely fuzzy, intuitionistic and neutrosophic environments.

Research Interests

Fuzzy Sets, Fuzzy Multisets, Neutrosophic Sets, Neutrosophic Soft Sets, Neutrosophic Soft Expert Sets, Refined Neutrosophic Set.

List of Publications in Neutrosophics

Bakbak, D., Uluçay, V., Şahin, M. "Neutrosophic soft expert multiset and their application to multiple criteria decision making." *Mathematics*, 7(1), 50, 2019.

Bakbak, D., Uluçay, V. "Multiple Criteria Decision Making in Architecture Based on Q-Neutrosophic Soft Expert Multiset". In *Neutrosophic Triplet Research* I, 90-107, 2019.

Bakbak, D., Uluçay, V. "A Theoretic Approach to Decision Making Problems in Architecture with Neutrosophic Soft Set." In *Quadruple Neutrosophic Theory And Applications*, I, 2020.

Bhimraj Basumatary

Assistant Professor, PhD
Department of Mathematical Sciences
Bodoland University
Kokrajhar, BTAD / INDIA

Profile

M.Sc in Mathematics from Tezpur University and Ph.D from Bodoland University. Editorial Board Member of *International Journal of Data Science and Analysis*. Reviewer for different highly recognized academic journals.

Research Interests

Neutrosophic Set, Neutrosophic Topology, Neutrosophic Linear Programming Problem, Fuzzy Set, Intuitionistic Fuzzy Set, Multi Criteria Decision Making.

Neutrosophic Research

Currently, doing research in Neutrosophic Topological Group with his research scholars.

List of Publication in Neutrosophics

Basumatary B., Said B. "Interval-Valued Triangular Neutrosophic Linear Programming Problem", *International Journal of Neutrosophic Science*, 10(2), 105-115, 2020.

Mwchahary D.D., Basumatary B. "A Note on Neutrosophic Bitopological Space." *Neutrosophic Sets & System*, 33, 2020.

Aysun Benek

PhD Candidate
Department of Mathematics
Faculty of Sciences and Letter
Kafkas University
Kars / TURKEY

Profile

BSc (2018) and MSc degree (2021) from Mathematics Department, Kafkas University, in Kars, Turkey. Currently, PhD student at Kafkas University. Currently concentrating on her research work (PhD Scholar in Mathematics).

Research Interests

Fuzzy Sets, Rough Sets, Soft Sets, Neutrosophic Sets, Neutrosophic Soft Sets.

List of Publications in Neutrosophics

Yolcu, A., Benek, A., & Ozturk, T. Y. "A new approach to neutrosophic soft rough sets." *Knowledge and Information Systems*, 1-18, 2023.

Ozturk, T. Y., Benek, A., & Ozkan, A. "Neutrosophic soft compact spaces." *Afrika Matematika*, 32, 301-316, 2021.

Kanika Bhalla

Postdoctoral Research Associate
Mallinckrodt Institute of Radiology
Washington University in St. Louis
School of Medicine
St. Louis, Missouri / UNITED STATES OF AMERICA

Profile

B.E. degree in Computer Science and Engineering from Guru Nanak Dev University, Amritsar, India, in 2016, and M.S. degree in Computer Science and Engineering from Chitkara University, India, in 2019. Ph.D. degree in Electrical Engineering and Computer Science from the National Taipei University of Technology, Taipei, Taiwan. Currently, a postdoctoral research associate at the Washington University School of Medicine in St. Louis (USA). Worked as a lecturer in the Computer Science Department of Chitkara University in India.

Received iFUZZY 2022 Best Paper Award from *iFuzzy and Taiwan Fuzzy Systems Association* for the paper "A neutrosophic segmentation method for defect detection from TFT-LCD panelimages". Received TFSA Doctoral Dissertation Award issued by *Taiwan Fuzzy Systems Association* (Springer). Also a Winner of the Knight ADRC and Wisconsin ADRC 3MT PhD Dissertation Competition.

Research Interests

Machine Learning, Deep Learning Modeling, Neutrosophic Fuzzy Sets, Medical Image Processing, Computer Vision, Pattern Recognition, Segmentation, Defects Detection, Breast Image Computation, Multimodality Image Fusion.

List of Publications in Neutrosophics

Bhalla K, Huang YP. "A Modified Singular Value Decomposition Kernelized Neutrosophic Entropy Method for TFT-LCD Panel Defect Segmentation." In *2022 IEEE International Conference on Systems, Man, and Cybernetics* (SMC), IEEE, 248-253, 2022.

Huang YP, Bhalla K. "Automatic Generation of Laser Cutting Paths in Defective TFT-LCD Panel Images by Using Neutrosophic Canny Segmentation." *IEEE Transactions on Instrumentation and Measurement*, 13, 71:1-6, 2022.

Binu R.

Assistant Professor
Department of Mathematics
Rajagiri School of Engineering & Technology
Cochin, Kerala / INDIA

Profile

PhD in Mathematics with the thesis "Study of Neutrosophic Sumodules and Application" (2020) from Mahatma Gandhi University, Kottayam, Kerala (India). Master of Science in Mathematics (2007) from Mahatma Gandhi University, Kottayam, Kerala (India). Bachelor of Science in Mathematics (2005) from Kerala University, Trivandrum, Kerala, India. Assistant Professor since 2010 at the Rajagiri School of Engineering & Technology, Cochin, Kerala (India).

List of Publications in Neutrosophics

Papers

R. Binu, P. Isaac. "Neutrosophic Injective G-submodule." *Journal of Applied Science and Computations*, 4(5), 3005-3017, 2019.

R. Binu. "Neutrosophic Quotient Algebra." *International Journal of Neutrosophic Science*, 1(2), 11-14, 2019. (Scopus)

R. Binu, P. Isaac. "Neutrosophic Quotient Submodules and Homomorphisms." *Punjab University Journal of Mathematics*, 51(12), 45-55, 2019. (SCI)

R. Binu, P. Isaac. "Weighted Similarity Measure Using Pseudo-metric in Neutrosophic Decision Making Environment." *Think India Journal*, 22(14), 14421-14426, 2019. (UGC Care list)

R. Binu. "A Note on Neutrosophic Submodule of an R-module M." *International Journal of Neutrosophic Science*, 1(2), 11-21, 2020. (Scopus)

R. Binu, P. Isaac. "Homomorphism of Neutrosophic G-submodules." *Advances and Applications in Mathematical Science*, 19(3), 199-209, 2020. (SCI)

R. Binu, P. Isaac. "Homomorphism of Neutrosophic G-submodules." *Advances and Applications in Mathematical Science*, 19(3) 199-209, 2020. (SCI)

Binu, P. Isaac. "Isomorphism Theorem for Neutrosophic Submodules." *Applied Mathematics and Information Sciences*, 14(1), 1-6, 2020. (SCOPUS)

R. Binu, P. Isaac. "Neutrosophic Projective G-Submodules." *Neutrosophic Sets and Systems*, 32, 94-106, 2020. (SCI)

R. Binu, P. Isaac. "Some Characterizations of Neutrosophic G-Submodules." *Journal of Mathematical Computational Science*, 10(1), 27-39, 2020. (SCOPUS)

R. Binu, P. Isaac. "Some Characterizations of Neutrosophic Submodules of an R-module." *Applied Mathematics and Nonlinear Sciences*, 6(1), 1-14, 2021. (SCOPUS)

R. Binu, P. Isaac. "Neutrosophic Soft Set and Clinical Application." *Journal of Information Science and Engineering* 37, 381-393, 2021. (SCI)

R. Binu, and Ursala Paul. "Tensor Product of Neutrosophic submodules of an R-module." *Neutrosophic Sets and Systems,* 457-468, 2022. (Scopus)

Book Chapters

R. Binu, P. Isaac. "Weighted Similarity Measure and Clinical Application of Single Valued Neutrosophic Set." In *Neutrosophic Theories in Communication, Management and Information Technology*, Chapter 17, 240-261, Nova Science Publisher, U.S.A., 2020.

R. Binu, P. Isaac. "Multi Attribute Neutrosophic Decision Making in Dosimetric Assessment of Radiotherapy Imaging Techniques." In *Neutrosophic Operational Research*, Chapter 28, 615-630, Springer, 2021.

R. Binu, P. Isaac. "Direct Sum of Neutrosophic submodules of an R-module." In *Neutrosophic Algebraic Structures and Their Applications*, Chapter 15, 238-245, NSIA Publishing House, University of New Mexico, U.S.A., 2022.

Conference Presentation

V. Panthalookaran, R. Binu. "Some models and methods to nurture general management skills in engineering students living in large residential communities." Proceedings of the ASME 2010 10th Biennial Conference on Engineering Systems Design and Analysis, July 12-14, 2010, Istanbul, Turkey. ESDA 2010.

R. Binu, P. Isaac. "Weighted Similarity Measure and Decision Making in Clinical Application of Neutrosophic Soft Set." At the 2019 International Conference on Data Science and Engineering (ICDSE), IIT Patna. IEEE Xplore, 2019.

Gourangajit Borah

PhD Student
Department of Mathematics
Dibrugarh University
Dibrugarh, Assam / INDIA

Profile

Bachelor of Science in Mathematics (2013 – 2016), Master of Science in Mathematics (2016 – 2018), Master of Philosophy (2019 – 2029) in Fuzzified Fractional Calculus, from Dibrugarh University Dibrugarh, India. Since March 2021, registered as a Full-time PhD Scholar at the Department of Mathematics, Dibrugarh University, Dibrugarh, India.

Currently, pursuing innovative and fruitful research in the area of multi criteria decision-making, aggregation operator, quadripartitioned single-valued neutrosophic set, and various types of information measures for uncertainty modelling. Published several papers in refereed International Journals, including *Artificial Intelligence Review, Experts Systems with Applications, Engineering Applications of Artificial Intelligence, Cognitive Computation, Journal of Ambient Intelligence and Humanized Computing, Neural Processing Letters, Heat Transfer, New Mathematics and Natural Computation, Beni-Suef University Journal of Basic and Applied Sciences*. Published four book chapters as well. Reviewer of various International Journals.

Research Interests

Multi Criteria Decision-Making, Aggregation Operator, Neutrosophic Logic, Neutrosophic Numbers, Single Valued Neutrosophic Set, Quadripartitioned Single-Valued Neutrosophic Set, Neutrosophic Decision Making, Interval Neutrosophic Set.

Neutrosophic Research Goals

To propose some efficient information measures, as well as the aggregation operators under the quadripartitioned single-valued neutrosophic information. Exploring various multi-criteria decision making methods under the framework of quadripartitioned single-valued neutrosophic sets.

List of Publications in Neutrosophics

G. Borah, P. Dutta (2022). "Aggregation operators of quadripartitioned single-valued neutrosophic Z-numbers with applications to diverse COVID-19 scenarios." *Engineering Applications of Artificial Intelligence*, Elsevier, DOI: 10.1016/j.engappai.2022.105748

P. Dutta, G. Borah (2021). "An Expected Value-Based Novel Similarity Measure For Multi-Attribute Decision-Making Problems With Single-Valued Trapezoidal Neutrosophic Numbers." In: *Decision-Making with Neutrosophic Set*, Editor: Harish Garg, ISBN: 978-1-53619-419-7, 133 – 161.

G. Borah, P. Dutta (2021). "Multi-attribute Cognitive Decision Making via Convex Combination of Weighted Vector Similarity Measures for Single-Valued Neutrosophic Sets." *Cognitive Computation*, Springer, DOI: 10.1007/s12559-021-09883-0

G. Borah, P. Dutta (2023). "Fuzzy Risk Analysis in Crop Selection Using Information Measures on Quadripartitioned Single-Valued Neutrosophic Sets." *Expert Systems With Applications*, Elsevier (Accepted).

Javier Fernando Botía Valderrama

Lecturer and Researcher
Systems Engineering Department
Faculty of Engineering
University of Antioquia
Medellin / COLOMBIA

Profile

Engineering degree in Electronics from the Faculty of Electronics Engineering, Santo Tomás University, Tunja, Colombia, in 2008. Specialist in Electronics Instrumentation from the Postgraduate Department, Santo Tomás University, Tunja, Colombia, in 2008. MSc in Engineering and PhD in Electronic Engineering from University of Antioquia, Medellin, Colombia, in 2011 and 2016, respectively. Researcher Young in Research Group in Power Electronic, Automatic, and Robotic (GEPAR) and Research Group in Applied Telecommunications (GITA), University of Antioquia, Medellin, Colombia, between 2009-2011 and 2011-2018, respectively. Currently working as Lecturer in Systems Engineering Department, University of Antioquia, and causal Lecturer in Systems Engineering Department in Catholic University Luis Amigo and Pontifical Bolivarian University, Medellin, Colombia.

Participation as reviewer of the following Colombian and international journals: Faculty of Engineering Journal – UdeA, Engineering Journal – University of Medellin, Polytechnic Journal, Expert Systems with Applications, Journal of Applied Mathematics and Computing, IEEE Transactions on Fuzzy Systems, Journal of the Egyptian Mathematical Society, IEEE Latin American Transactions, International Journal of Metallurgy and Metal Physics, Optics Communications, and Computer Communication and Collaboration. Winner of several recognitions and awards such as Facientes Veritatem Caballero from Santo Tomás University, Special Mention for his Capacity and Spirit of Research from Santo Tomás University, and Special Recognition for Research from REDCOLSI and Colciencias, Medellin, Colombia. Internship in Ultrafast Optics and Optical Fiber Communications Laboratory, Purdue University, and DISCO Research Group, LAAS-CNRS, Toulouse, France.

Research Interests

Machine Learning, Fuzzy Clustering, Intuitionistic Fuzzy Sets, Fuzzy Sets and Extensions, Deep Clustering, Collaborative Clustering, Fuzzy Cellular Automata.

List of Publications in Neutrosophics

Javier F. Botía Valderrama and Diego J. Botía Valderrama. “On LAMDA Clustering Method Based on Typicality Degree and Intuitionistic Fuzzy Sets.” *Expert Systems with Applications* 107, 196-221, 2018.

Javier F. Botía Valderrama, Ana M. Cárdenas, and Carlos M. Sierra. “Fuzzy Cellular Automata and Intuitionistic Fuzzy Sets Applied to an Optical Frequency Comb Spectral Shape.” *Engineering Applications of Artificial Intelligence* 62, 181-194, 2017.

Veerappan Chinnadurai

Professor
Department of Mathematics
Annamalai University
Annamalai Nagar
Chidambaram, Tamil Nadu / INDIA

Profile

Dip. L.L.& A.L., M.Ed., M.A., M.Sc., M.Phil., Ph.D. Specialization: Fuzzy Algebra. Awards/Honours/Memberships: *International Journal of Interdisciplinary Research in Arts and Humanities, International Journal of Multidisciplinary Research and Modern Education, The Indian Science Congress Association*.

Research Interests

Fuzzy Sets and Systems.

List of Publications in Neutrosophics

Chinnadurai V., Sindhu M.P. "A Novel Approach for Pairwise Separation Axioms on Bi-Soft Topology Using NeutrosophicSets and An Output Validation in Real Life Application." *Neutrosophic Sets and Systems*, 35, 435-463, 2020.

Chinnadurai V., Sindhu M.P. "A Novel Approach: Neutro-Spot Topology and Its Supra Topology With Separation Axioms and Computing the Impact on COVID-19." *Neutrosophic sets and systems*, 38, 188-213, 2020.

V. Chinnadurai, M.P. Sindhu. "Generalization of level sets in neutrosophic soft sets and points: A new approach." *Tathapi*, 19(50), 54-81, 2020.

V. Chinnadurai, A. Bobin, D. Cokilavany. "Simplified intuitionistic neutrosophic hyper soft TOPSIS method based on correlation coefficient." *Neutrosophic Sets and Systems*, 51, 570-591, 2022.

V. Chinnadurai, A. Bobin. "Interval-valued intuitionistic neutrosophic hypersoft TOPSIS method based on correlation coefficient." *Neutrosophic Sets and Systems*, 51, 592-618, 2022.

Chinnadurai V., Bobin A. "Simplified Intuitionistic Neutrosophic Soft Set and its Application on Diagnosing Psychological Disorder by Using Similarity Measure." *Applications and Applied Mathematics: An International Journal* (AAM), 16(1), 604-630, 2021.

Veerappan Chinnadurai and Albert Bobin, "Interval Valued Intuitionistic Neutrosophic Soft Set and its Application on Diagnosing Psychiatric Disorder by Using Similarity Measure.", Neutrosophic Sets and Systems, Volume 41, Number 1, Apr 2021, pp. 215-245. 2021.

Camelia Delcea

Associate Professor
The Bucharest Academy of Economics
Bucharest / ROMANIA

Profile

Former Public Sector Administrator of The Administration of the Navigable Canals, Agigea, Romania. Former Main Counselor at The Transport Ministry, Corporate Governance Department, Bucharest, Romania. Assistant Professor (Lecturer) and then Associate Professor at The Bucharest Academy of Economics (Romania).

Teaching seminars/courses of:

- Economic Cybernetics – fundamentals and advanced;
- Economic Cybernetics (in English);
- Operational Research – fundamentals and advanced;
- Operational Research (in English);
- Macroeconomics;
- Macroeconomics (in English);
- Economy and Risk Management;
- Enterprise Risk Management;
- Non-linear Dynamics and Chaos; Research activities related to:
- Developing economic models based on grey system theory, fuzzy logic, neural networks, genetic algorithms, etc., using agent-based modeling;
- Participating to the most representative conferences in the research field;
- Creating, calibrating, testing and applying models to real life situations.

List of Publications in Neutrosophics

Marcel Boloș, Ioana Bradea, Camelia Delcea. "Neutrosophic portfolios of financial assets. Minimizing the risk of neutrosophic portfolios." *Mathematics*, Special Issue: *New Challenges in Neutrosophic Theory and Applications*, 2019. https://doi.org/10.3390/math7111046

Marcel Boloș, Ioana Bradea, Camelia Delcea. "Modeling the Performance Indicators of Financial Assets with Neutrosophic Fuzzy Numbers." *Symmetry*, 11(8), 1021, Special Issue: *New types of Neutrosophic Set/Logic/Probability, Neutrosophic Over-/Under-/Off-Set, Neutrosophic Refined Set, and their Extension to Plithogenic Set/Logic/Probability, with Applications*, 2019.

https://doi.org/10.3390/sym11081021.

Sudeep Dey

Assistant Professor
Department of Mathematics
Science College
Kokrajhar, Assam / INDIA

Profile

M.Sc. (Mathematics) degree from Gauhati University, Assam, India. M. Phil. (Mathematics) degree from Madurai Kamraj University, Tamil Nadu, India in 2008. Working as an Assistant Professor (Sr. Grade) in the Department of Mathematics in Science College, Kokrajhar, Assam, India. Currently, pursuing PhD at The Central Institute of Technology, Kokrajhar, Assam.

Research Interest

Fuzzy topology, Neutrosophic topology.

List of Publications in Neutrosophics

Gautam Chandra Ray, Sudeep Dey. "Neutrosophic point and its neighbourhood structure." *Neutrosophic Sets and Systems*, 43, 156-168, 2021.

Gautam Chandra Ray, Sudeep Dey. "Relation of Quasi-coincidence for Neutrosophic Sets." *Neutrosophic Sets and Systems*, 46, 402-415 2021.

Sudeep Dey, Gautam Chandra Ray. "Redefined neutrosophic composite relation and its application in medical diagnosis." *Int. J. Nonlinear Anal. Appl.*, 13, 43-52, 2021.

Sudeep Dey, Gautam Chandra Ray. "Covering properties in neutrosophic topological spaces." *Neutrosophic Sets and Systems*, 51, 525-537, 2022.

Sudeep Dey, Gautam Chandra Ray. "Neutrosophic Pre-compactness." *International Journal of Neutrosophic Science*, 21(1), 105-120, 2023.

Mamoni Dhar

Senior Assistant Professor
Department of Mathematics
Science College
Kokrajhar, Assam / INDIA

Profile

Editorial Board member of *Journal of Information*, published by Pak Publishing Group. Editorial Board member of *Journal of International Journal of Mathematical Sciences and Computing* (IJMSC), published by Modern Education and Computer Science Press(MECS) Press, Hong Kong. Editorial Advisory Board Member of *Journal of Fuzzy Extensions and Applications*. Reviewer of journals of international renown.

Educational Qualification

Ph.D. (Maths) from Gauhati University;

M.Phil. (Maths) from Madurai Kamraj University;

M.A. (Maths)from Gauhati University;

B.A. (Maths) from Gauhati University;

B.Ed. from Gauhati Universty;

PGDIM from Indira Gandhi National Open University.

List of Publications in Neutrosophics

Broumi Said, Smarandache F., Dhar M. "Rough Neutrosophic Sets." *Italian Journal of Pure and Applied Mathematics*, 32, 493-502, 2014.

Broumi S., Smarandache F., Dhar M. "New results of intuitionistic fuzzy soft set." *Neutrosophic Theory and its Applications*, 47-52, 2014.

Dhar M., Broumi S. "A Note on Square Neutrosophic fuzzy matrices." *Neutrosophic Sets and Systems*, 3, 57-41, 2014.

Dhar M. "Neutrosophic Soft Block matrices and Some of its properties." *International Journal of Neutrosophic Sciences*, 12(1), 39-49, 2020.

Dhar M. "Neutrosophic soft matrices and its application in medical diagnosis." *Journal of Fuzzy Extensions and Applications*, 2(1), 23-32, 2021.

Broumi S., Dhar M., Bakhouyl A., Bakali A., Talea M "Medical Diagnosis Problems Based on Neutrosophic sets and their Hybrid Structures: A Survey." *Neutrosophic Sets and Systems*, 49(1), 1-19, 2022.

Dhar M. "Some Basis Concepts of Neutrosophic Soft Block Matrices." *Neutrosophic Sets and Systems*, 51, 46-59, 2022.

Runu Dhar

Associate Professor
Department of Mathematics
Maharaja Bir Bikram University
College Tilla
Agartala, Tripura / INDIA

Profile

BSc and MSc in Mathematics from Tripura University. PhD from Tripura University. Associate Professor at the Maharaja Bir Bikram University, India. Topics Taught: Abstract Algebra, Real Analysis, Functional Analysis, Topology, Operations Research. Five Research Scholars are pursuing PhD under his supervision.

Almost twenty two years of research and teaching experience. Published more than twenty research papers in journals and conference proceedings. Associated with Fuzzy and Rough Sets Association.

Research Interests

Fuzzy Set Theory, Fuzzy Topology, Neutrosophic Set Theory, Neutrosophic Topology.

List of Publications in Neutrosophics

Runu Dhar. "Compactness and Neutrosophic Topological Space Via Grills." *Neutrosophic Systems with Applications* 2, 1-7, 2023

Runu Dhar, Suma Paul, Supriya Paul. "New Forms of Some Neutrosophic Compact Spaces Via Grills." *Acta Ciencia Indica* XLVIII-M, No. 1-4, 17-26, 2022

Runu Dhar, Suma Paul, Supriya Paul, Gour Pal. "Some Neutrosophic Compact Spaces Via Grills." *Electronic Journal of Mathematical Analysis and Applications* 51, 134-145, 2022

Runu Dhar, Gour Pal, Binod Chandra Tripathy. "Minimal Structures and Grill in Neutrosophic Topological Spaces." *Neutrosophic Sets and Systems* 51, 134-145, 2022

Runu Dhar, Gour Pal, Binod Chandra Tripathy. "Continuity in Minimal Structures in Neutrosophic Topological Spaces." *Neutrosophic Sets and Systems* 51, 360-370, 2022

Runu Dhar, Gour Pal. "Compactness in Neutrosophic Minimal Spaces." *Journal of Tripura Mathematical Society*, 22, 68-74, 2020

Souhail Dhouib

Full Professor
Higher Institute of Industrial Management
University of Sfax / TUNISIA

Profile

Artificial Intelligence Developer. Inventor of Dhouib-Matrix concept which gathers optimization methods: New heuristics (Dhouib-Matrix-TSP1, Dhouib-Matrix-AP1, Dhouib-Matrix-TP1, …), Novel metaheuristics (Far-to-Near, Dhouib-Matrix-3, Dhouib-Matrix-4, …), Original optimal methods (Dhouib-Matrix-SPP, Dhouib-Matrix-ALL-SPP, Dhouib-Matrix-MST, …).

Research Interests

Decision Making, Computer Science, Management.

List of Publications in Neutrosophics

Papers

Dhouib S. "Novel Heuristic for New Pentagonal Neutrosophic Travelling Salesman Problem." *Neutrosophic Sets and Systems*, 51, 344-359, 2022. DOI: 10.5281/zenodo.7135315.

Dhouib S. "Solving the Single-Valued Trapezoidal Neutrosophic Transportation Problems through the Novel Dhouib-Matrix-TP1 Heuristic." *Mathematical Problems in Engineering*, Article ID 3945808, 1-11, 2021. DOI: 10.1155/2021/3945808.

Dhouib S. "Neutrosophic Triangular Fuzzy Travelling Salesman Problem Based on Dhouib-Matrix-TSP1 Heuristic." *International Journal of Computer and Information Technology*, 10(5), 180-183, 2021. DOI: 10.24203/ijcit.v10i5.154.

Dhouib S. "Optimization of Travelling Salesman Problem on Single Valued Triangular Neutrosophic Number using Dhouib-Matrix-TSP1 Heuristic." *International Journal of Engineering*, 34(12), 2642-2647. DOI: 10.5829/IJE.2021.34.12C.09.

Dhouib S., Broumi S., Lathamaheswari M. "Single Valued Trapezoidal Neutrosophic Travelling Salesman Problem with Novel Greedy Method: The Dhouib-Matrix-TSP1 (DM-TSP1)." *International Journal of Neutrosophic Science*, 17(2), 144-157, 2021. DOI: 10.54216/IJNS.170205.

Keynote speaker (Neutrosophic topics)

Dhouib S. "Novel Optimization Methods for Combinatorial Problems: The Concept of Dhouib-Matrix (DM)." The 5th International Conference of Tunisian Operational Research Society (TORS'22), November 1-3, 2022, Sousse Tunisia, https://torsconference.wixsite.com/tors22.

Dhouib S., Loukil Taicir. "Approximation Methods under Uncertain Environment." International Conference on Science, Engineering Management and Information Technology (SETIM'22), September 8-9, 2022, Ankara, Turkey, https://semit.refconf.com/page_70.html.

Vishwas Dohale

Business Consultant
Goldratt Consulting India Pvt Ltd
Mumbai / INDIA

Profile

Currently working as a Business Consultant (Operations Strategy) at the Goldratt Consulting India Pvt Ltd. Doctoral Research Fellowship (Ph.D.) in Operations and Supply Chain Management (O&SCM) from the National Institute of Industrial Engineering (NITIE), Mumbai, India. Recipient of the Best Thesis Award (Doctoral Dissertation Competition) from the IEOM society conference (IMEOM – 2022). Completed his M.E. in CAD/CAM and Robotics from the University of Mumbai.

Developed with collaborators a *Neutrosophic Interpretive Structural Modelling (N-ISM)*, a popular MCDM method Interpretive structural modelling (ISM) by integrating it with Neutrosophic set. Published research in journals such as *International Journal of Production Economics (IJPE), International Journal of Production Research (IJPR), Production Planning and Control (PPC), Annals of Operations Research (ANOR), International Journal of Physical Distribution and Logistics Management (IJPDLM), Industrial Management & Data Systems (IMDS), Computers & Industrial Engineering (CAIE), International Journal of Logistics Management (IJLM)*.

Research Interests

Manufacturing Strategy, Industrial Engineering, Operations Management, Supply Chain Management, Supply Chain Resilience and Sustainability, Circular Economy, Product Return Management, Production and Operations Management, Carbon Neutrality, Multi-Criteria Decision Making (MCDM), Optimization, Heuristics, Machin Learning, Bayesian Network, Discrete Event Simulation and Modelling, System Dynamics, Agent Based Simulation.

List of Publications in Neutrosophics

Vishwas Dohale, Priya Ambilkar, Ashwani Kumar, Sachin Kumar Mangla, Vijay Bilolikar. “Analyzing the Enablers of Circular Supply Chain Using Neutrosophic-ISM Method: Lessons from the Indian Apparel Industry.” *International Journal of Logistics Management* 34 (3): 611–643, 2023. DOI: 10.1108/IJLM-03-2022-0141.

Vishwas Dohale, Priya Ambilkar, Angappa Gunasekaran, Vijay Bilolikar. “Examining the Barriers to Operationalization of Humanitarian Supply Chains: Lessons Learned from COVID-19 Crisis.” *Annals of Operations Research*, 2022. DOI: 10.1007/s10479-022-04752-x

Chandrashekhar Chaudhari, Vishwas Dohale, Vivek Khanzode, Rauf Iqbal. “Analyzing Interrelationship Between Distributor’s KPIs and Constraints using Neutrosophic DEMATEL” *Journal of Business Research* (Submitted)

Seyyed Ahmad Edalatpanah

Associate Professor
Department of Applied Mathematics
Ayandegan
Institute of Higher Education
Tonekabon / IRAN

Profile

Ph.D. degree in Applied Mathematics from the University of Guilan, Rasht, Iran. Currently working as the Chief of R&D at the Ayandegan Institute of Higher Education, Iran. Academic member of Guilan University and the Islamic Azad University of Iran. Published over 150 journal and conference proceedings papers. Serves on the editorial boards of several international journals. Director-in-Charge of the *Journal of Fuzzy Extension & Applications*. Current president of "International Society of Fuzzy Set Extensions and Applications" (ISFSEA, https://isfsea.org).

Research Interests

Numerical Computations, Operational Research, Uncertainty, Fuzzy Set, Numerical Linear Algebra, Soft Computing, Optimization.

List of Publications in Neutrosophics

Qiu, Peiyao, Ali Sorourkhah, Nasreen Kausar, Tonguc Cagin, and Seyyed Ahmad Edalatpanah. "Simplifying the Complexity in the Problem of Choosing the Best Private-Sector Partner." *Systems* 11, no. 2 (2023): 80.

Gayen, Sudipta, S. A. Edalatpanah, Sripati Jha, and Ranjan Kumar. "On the Characterization of Antineutrosophic Subgroup." *Advances in Mathematical Physics* 2023.

Stanimirović, Predrag S., Branislav Ivanov, Dragiša Stanujkić, Vasilios N. Katsikis, Spyridon D. Mourtas, Lev A. Kazakovtsev, and Seyyed Ahmad Edalatpanah. "Improvement of Unconstrained Optimization Methods Based on Symmetry Involved in Neutrosophy." *Symmetry* 15, no. 1 (2023): 250.

Palanikumar, Murugan, Nasreen Kausar, Shams Forruque Ahmed, Seyyed Ahmad Edalatpanah, Ebru Ozbilge, and Alper Bulut. "New applications of various distance techniques to multi-criteria decision-making challenges for ranking vague sets." *AIMS Mathematics* 8, no. 5 (2023): 11397-11424.

Radha, R., A. Stanis Arul Mary, Said Broumi, S. Jafari, and S. A. Edalatpanah. "Effectiveness on impact of COVID vaccines on correlation coefficients of pentapartitioned neutrosophic pythagorean statistics." In *Cognitive Intelligence with Neutrosophic Statistics in Bioinformatics*, pp. 335-356. Academic Press, 2023.

Akram, Muhammad, Syed Muhammad Umer Shah, Mohammed M. Ali Al-Shamiri, and S. A. Edalatpanah. "Extended DEA method for solving multi-objective transportation problem with Fermatean fuzzy sets." *AIMS Math* 8 (2023): 924-961.

Stanimirović, Predrag S., Branislav Ivanov, Dragiša Stanujkić, Vasilios N. Katsikis, Spyridon D. Mourtas, Lev A. Kazakovtsev, and Seyyed Ahmad Edalatpanah.

"Improvement of Unconstrained Optimization Methods Based on Symmetry Involved in Neutrosophy." *Symmetry* 15, no. 1 (2023): 250.

Edalatpanah, S. A., Florentin Smarandache, and Harish Garg. "Guest editorial: Preface to the special issue on the neutrosophical approach: applications in management decision and organizational research methods." *Management Decision* 61, no. 2 (2023): 357-362.

Edalatpanah, S. A., and Florentin Smarandache. "Introduction to the Special Issue on Advances in Neutrosophic and Plithogenic Sets for Engineering and Sciences: Theory, Models, and Applications." *Computer Modeling In Engineering & Sciences* 134, no. 2 (2023): 817-819.

Talouki, Amanna Ghanbari, Abbas Koochari, and S. Ahmad Edalatpanah. "Image completion based on segmentation using neutrosophic sets." *Expert Systems with Applications* (2023): 121769.

Nagarajan, D., A. Kanchana, Kavikumar Jacob, Nasreen Kausar, Seyyed Ahmad Edalatpanah, and Mohd Asif Shah. "A novel approach based on neutrosophic Bonferroni mean operator of trapezoidal and triangular neutrosophic interval environments in multi-attribute group decision making." *Scientific reports* 13, no. 1 (2023): 10455.

Rasoulzadeh, Mehrdad, Seyed Ahmad Edalatpanah, Mohammad Fallah, and Seyed Esmaeil Najafi. "A multi-objective approach based on Markowitz and DEA cross-efficiency models for the intuitionistic fuzzy portfolio selection problem." *Decision Making: Applications in Management and Engineering* 5, no. 2 (2022): 241-259.

Das, Sapan Kumar, and S. A. Edalatpanah. "Optimal solution of neutrosophic linear fractional programming problems with mixed constraints." *Soft Computing* 26, no. 17 (2022): 8699-8707.

Akram, Muhammad, Syed Muhammad Umer Shah, Mohammed M. Ali Al-Shamiri, and S. A. Edalatpanah. "Fractional transportation problem under interval-valued Fermatean fuzzy sets." *AIMS Mathematics* 7, no. 9 (2022): 17327-17348.

Veeramani, C., R. Venugopal, and S. A. Edalatpanah. "Neutrosophic DEMATEL approach for financial ratio performance evaluation of the NASDAQ Exchange." *Neutrosophic Sets and Systems* 51 (2022): 766-782.

Ghanbari Talouki, A., A. Koochari, and S. A. Edalatpanah. "Applications of neutrosophic logic in image processing: A survey." *Journal of Electrical and Computer Engineering Innovations* (JECEI) 10, no. 1 (2022): 243-258.

Saberhoseini, Seyed Farhad, Seyyed Ahmad Edalatpanah, and Ali Sorourkhah. "Choosing the best private-sector partner according to the risk factors in neutrosophic environment." *Big data and computing visions* 2, no. 2 (2022): 61-68.

Veeramani, C., S. A. Edalatpanah, and S. Sharanya. "Solving the multiobjective fractional transportation problem through the neutrosophic goal programming approach." *Discrete Dynamics in Nature and Society* 2021 (2021): 1-17.

Wang, Qing, Yi Huang, Shiming Kong, Xinqiang Ma, Youyuan Liu, S. K. Das, and S. A. Edalatpanah. "A novel method for solving multiobjective linear programming problems with triangular neutrosophic numbers." *Journal of Mathematics* 2021 (2021): 1-8.

Kumar, R., Edalatpanah, S. A., Gayen, S., & Broumi, S. (2021). Answer Note "A novel method for solving the fully neutrosophic linear programming problems: Suggested modifications". *Neutrosophic sets and systems*, 39, 147.

Kumar Das, Sapan, S. A. Edalatpanah, and Jatindra Kumar Dash. "A novel lexicographical-based method for trapezoidal neutrosophic linear programming problem." *Neutrosophic sets and systems* 46.1 (2021): 12.

Das, Sapan Kumar, and S. A. Edalatpanah. "A new ranking function of triangular neutrosophic number and its application in integer programming." *International Journal of Neutrosophic Science* 4.2 (2020): 82-92.

Mao, Xinna, Zhao Guoxi, Mohammad Fallah, and S. A. Edalatpanah. "A neutrosophic-based approach in data envelopment analysis with undesirable outputs." *Mathematical Problems in Engineering* 2020 (2020): 1-8.

Mao, Xinna, Zhao Guoxi, Mohammad Fallah, and S. A. Edalatpanah. "Research Article A Neutrosophic-Based Approach in Data Envelopment Analysis with Undesirable Outputs." (2020).

Yang, W., Cai, L., Edalatpanah, S. A., & Smarandache, F. (2020). "Triangular single valued neutrosophic data envelopment analysis: application to hospital performance measurement." *Symmetry*, 12(4), 588.

Das, Sapan Kumar, S. A. Edalatpanah, and Jatindra Kumar Dash. "An intelligent dual simplex method to solve triangular neutrosophic linear fractional programming problem." Vol. 36. Infinite Study, 2020.

Edalatpanah, S. A. "A direct model for triangular neutrosophic linear programming." *International Journal of Neutrosophic Science* 1.1 (2020): 19-28.

Edalatpanah, Seyyed Ahmad. "Neutrosophic structured element." *Expert Systems* 37.5 (2020): e12542.

Edalatpanah, S. A. "Systems of neutrosophic linear equations." *Neutrosophic Sets and Systems* 33.1 (2020): 92-104.

Edalatpanah, S. A. "Data envelopment analysis based on triangular neutrosophic numbers." *CAAI Transactions on Intelligence Technology* 5.2 (2020): 94-98.

Edalatpanah, Seyed Ahmad. "A nonlinear approach for neutrosophic linear programming." *Journal of Applied Research On Industrial Engineering* 6.4 (2019): 367-373.

Edalatpanah, Seyed Ahmad. "Neutrosophic perspective on DEA." *Journal of Applied Research On Industrial Engineering* 5.4 (2018): 339-345.

Radha, R., A. Stanis Arul Mary, Said Broumi, S. Jafari, and S. A. Edalatpanah. "Effectiveness on impact of COVID vaccines on correlation coefficients of pentapartitioned neutrosophic pythagorean statistics." In *Cognitive Intelligence with Neutrosophic Statistics in Bioinformatics*, pp. 335-356. Academic Press, 2023.

Edalatpanah, S. A., & Smarandache, F. (2019). *Data envelopment analysis for simplified neutrosophic sets*. Infinite Study.

Kumar, R., Edalatpanah, S. A., Jha, S., & Singh, R. (2019). *A novel approach to solve gaussian valued neutrosophic shortest path problems*. Infinite study.

Masoud Ghods

Assistant Professor
Department of Mathematics, Statistics, and Computer Science
Semnan University
Semnan / IRAN

Profile

Bachelor's degree in Mathematics from Ferdowsi University of Mashhad in Iran (1992). Master's degree in Applied Mathematics from Bahonar University of Kerman (1995). Since 1996, member of the Mathematics Department of the Semnan University. PhD in Mathematics from the Iran University of Science and Technology (2015).

Research Interests

Graph Theory, Discrete Mathematics, Numerical Analysis, Operations Research, Fuzzy Set Theory, Fixed Point Theory, Chemical Graphs, Fuzzy Graphs, Neutrosophic Graphs.

List of Publications in Neutrosophics:

Ghods, M., Rostami, Z., Jalali, S.T. “Some Topological Indices in Neutrosophic Graphs.” The 4th International Conference on Combinatorics, Cryptography, Computer Science and Computing- November 20-21, 2019 - Iran University of Science & Technology, 935-940.

Ghods, M., Rostami, Z. “Introduction to Topological Indices in Neutrosophic Graphs” *Neutrosophic Sets and Systems*, 35, 68-77, 2020.

Ghods, M., Rostami, Z. “Introduction Totally and Partial Connectivity indices in neutrosophic graphs with Application in Behavioral Sciences.” *Neutrosophic Sets and Systems*, 36, 81-95, 2020.

Ghods, M., Rostami, Z. “Connectivity index in neutrosophic tree and the algorithm to find its maximum spanning tree.” *Neutrosophic Sets and Systems*, 36, 37-49, 2020.

Ghods, M., Rostami, Z., “Wiener index and applications in the Neutrosophic graphs." *Neutrosophic Sets and Systems*, 46, 229-245, 2021.

Ghods, M., Rostami, Z., Smarandache, F. “Introduction to Neutrosophic Restricted SuperHyperGraphs and Neutrosophic Restricted SuperHyperTrees and several of their properties.” *Neutrosophic Sets and Systems*, 50, 480-487, 2022.

Rostami, Z., Ghods, M. “Sombor index and applications in the Neutrosophic graphs.” *Neutrosophic Sets and Systems*. (Accepted Submission).

Mustafa Hasan Hadi

Professor
University of Babylon
College of Education for Pure Sciences
Department of Mathematics
Babylon, Hillah / IRAQ

Profile

BSc. degree in Sciences Mathematics from University of Babylon / College of Education for Pure Sciences (2006). MSc. degree in Sciences (Mathematics) from University of Babylon / College of Education for Pure Sciences (2011).

Published research articles in international peer-reviewed journals, including ISI Indexed / IF Journal publications. Some papers have been published in high impact journals including *Neutrosophic Sets and Systems, Taylor and Francis, AIP Conference Proceedings*, etc. Editorial Member of international academic journals. Reviewer/Referee for International Journals, including *Mathematical Reviews* (USA).

Research Interests

General Topology, Differential Topology, Algebraic Topology, Geometric Topology, Topological Field, Topological Group, Topological Ring, Ideal Topological Spaces, Soft Sets, Rough Sets.

Neutrosophic Research

Neutrosophic Set, Neutrosophic Crisp Set, Neutrosophic Fuzzy Sets, Hyper Soft Set, Super Hyper Algebra.

List of Publications in Neutrosophics

Mustafa Hasan Hadi, L. A.A. Al-Swidi. "The Neutrosophic Axial Set Theory." *Neutrosophic Sets and Systems*, 51, 295-302, 2022. https://doi.org/10.5281/zenodo.7135299.

Muritala Abiodun Ibrahim

PhD Student
Department of Mathematics and Statistics
Auburn University
Auburn, Alabama / UNITED STATES OF AMERICA

Profile

B.Sc. in Mathematics (2012-2017), Federal University of Agriculture Abeokuta, Nigeria. M.Sc. in Mathematics (2018-2021), Federal University of Agriculture Abeokuta, Nigeria. PhD in Mathematics, Auburn University, Auburn Alabama, USA (2022 till date).

Research Interests

Algebra, Neutrosophic Algebraic Structures, Refined Neutrosophic Algebraic Structures, Neutro(Anti) Algebraic Structures.

List of Publications in Neutrosophics

Ibrahim, M.A., Agboola, A.A.A, Adeleke, E.O, Akinleye, S.A. "Introduction to Neutrosophic Subtraction Algebra and Neutrosophic Subtraction Semigroup." *International Journal of Neutrosophic Science* (IJNS), 2(2), 47-62, 2020.

Ibrahim M.A. and Agboola, A.A.A. "Introduction to Neutrosophic Hypernearrings." *International Journal of Neutrosophic Science*, 10(1), 9-22, 2020.

Ibrahim, M.A., Agboola, A.A.A, Adeleke, E.O, Akinleye, S.A. "On Neutrosophic Quadruple Hypervector Spaces." *International Journal of Neutrosophic Science* (IJNS), 4(1), 20-35, 2020.

Ibrahim, M.A., Agboola, A.A.A, Badmus, B.S, Akinleye, S.A. "On Refined Neutrosophic Vector Spaces I." *International Journal of Neutrosophic Science*, 7(2), 97-109, 2020.

Ibrahim, M.A., Agboola, A.A.A, Badmus, B.S, Akinleye, S.A. "On Refined Neutrosophic Vector Spaces II." *International Journal of Neutrosophic Science*, 9(1), 22-36, 2020.

Ibrahim, M.A., Agboola, A.A.A, Badmus, B.S, Akinleye, S.A. "On Refined Neutrosophic Hypergroup." *International Journal of Neutrosophic Science*, 9(2), 86-99, 2020.

Agboola, A.A.A, Ibrahim, M.A., Adeleke, E.O., Akinleye, S.A. "On Refined Neutrosophic Algebraic Hyperstructures I." *International Journal of Neutrosophic Science*, 5(1), 29-37, 2020.

Agboola, A.A.A, Ibrahim, M.A., Adeleke, E.O., Akinleye, S.A. "Elementary Examination of NeutroAlgebras and AntiAlgebras viz-a-viz the Classical Number System." *International Journal of Neutrosophic Science* 4(1), 16-19, 2020. DOI:10.5281/zenodo.3752896.

Ibrahim, M.A., Agboola, A.A.A, Badmus, B.S, Akinleye, S.A. "On Refined Neutrosophic Hypervector Spaces." *International Journal of Neutrosophic Science*, 8(1), 50-71, 2020.

Agboola, A.A.A; Ibrahim, M.A. "Introduction to AntiRings." *Neutrosophic Sets and Systems*, 36, 2020.

Ibrahim M.A.; Agboola, A.A.A. "Introduction to NeutroVector Space I." *Neutrosophic Sets and Systems*, 36, 329-350, 2020.

Ibrahim, M.A.; Agboola, A.A.A. "Introduction to NeutroHyperGroups." *Neutrosophic Sets and Systems* 38, 2020.

Ibrahim, M.A., Agboola, A.A.A. "On Refined Neutrosophic Canonical Hypergroup." *Neutrosophic Science and System* 45, 250-265, 2021.

Ibrahim, M.A., Agboola, A.A.A. "On Refined Neutrosophic Hyperrings." *Neutrosophic Sets and Systems* 45, 415-427, 2021.

Muhammed Abobala, Ibrahim M.A. "Foundation of Refined Neutrosophic Number Theory." *Neutrosophic Sets and Systems* 45, 41-53, 2021.

Agboola, A.A.A.; Ibrahim, M.A. "A Study of NeutroAlgebra and AntiAlgebra of Ideals in a Factor Ring." *Neutrosophic Sets and Systems*, 55, 2023.

To appear

Ibrahim, M.A., Agboola, A.A.A. "Introduction to AntiHyperGroups". IGI-GLOBAL.

Agboola, A.A.A.; Ibrahim, M.A. "On NeutroSemiGroups". IGI-GLOBAL.

Ibrahim, M.A.; Agboola, A.A.A.; Zulaihat Hassan-Ibrahim. "Introduction to NeutroQuadrupleRings". IGI-GLOBAL.

Irfan Ali

Assistant Professor
Department of Statistics and Operations Research
Aligarh Muslim University
Aligarh, Uttar Pradesh / INDIA

Profile

Received B.Sc., M.Sc., M.Phil., and Ph.D. degrees from Aligarh Muslim University. Currently working as an Assistant Professor with the Department of Statistics and Operations Research, Aligarh Muslim University. Post Graduate Merit Scholarship Award during M.Sc. (in Statistics) and the UGC-BSR Scholarship awarded during his Ph.D. (also in Statistics) programs.

Supervised M.Sc., projects, M.Phil., dissertations and Ph.D. thesis in operations research and applied statistics topics. Completed a research project UGC–Start-Up Grant Project, UGC, New Delhi, India. Published more than 100 research articles in reputed journals and serves as a reviewer for several journals. Published several edited books for Springer and Taylor's Francis, CRC press. He is a Lifetime Member of various professional societies: Operational Research Society of India, Indian Society for Probability and Statistics, Indian Mathematical Society, and The Indian Science Congress Association. Invited talks at several universities and institutions. Associate Editor for some journals.

Research Interests

Applied Statistics, Mathematical Programming, Fuzzy Optimization, Multi-Objective Optimization.

List of Publications in Neutrosophics

Kamal, M., Modibbo, U.M., AlArjani, A., Ali, Irfan (2021). "Neutrosophic fuzzy goal programming approach in selective maintenance allocation of system reliability." *Complex Intell. Syst.* vol. 7(2), pp. 1045-1059.

https://doi.org/10.1007/s40747-021-00269-1.

M. F. Khan, A. Haq, A. Ahmed, Ali, Irfan (2021). "Multiobjective Multi-Product Production Planning Problem Using Intuitionistic and Neutrosophic Fuzzy Programming," in *IEEE Access*, vol. 9, pp. 37466-37486.

Haq, A., Modibbo, U. M., Ahmed, A., Ali, I. (2021). "Mathematical modeling of sustainable development goals of India agenda 2030: A Neutrosophic programming approach." *Environment, Development, and Sustainability*, 1-28. https://doi.org/10.1007/s10668-021-01928-6.

Srikant Gupta, Ahteshamul Haq, Irfan Ali. (2022). "Neutrosophic Goal Programming Approach for the Dash Diet Model." *Neutrosophic Sets and Systems*, Vol. 50. https://doi.org/10.5281/zenodo.6774765.

Haq, A., Modibbo, U. M., Ahmed, A., Ali, I. (2021). "Mathematical modeling of sustainable development goals of India agenda 2030: a Neutrosophic programming

approach." *Environment, Development and Sustainability*, 1-28. https://doi.org/10.1007/s10668-021-01928-6.

M. F. Khan, A. Haq, A. Ahmed, Ali, Irfan (2021). "Multiobjective Multi-Product Production Planning Problem Using Intuitionistic and Neutrosophic Fuzzy Programming," *IEEE Access*, vol. 9, pp. 37466-37486. https://doi.org/10.1109/ACCESS.2021.3063725.

Kamal, M., Modibbo, U.M., Al-Arjani, A., Ali, Irfan (2021). "Neutrosophic fuzzy goal programming approach in selective maintenance allocation of system reliability." *Complex Intell. Syst.* vol. 7(2), pp. 1045-1059.

Irvanizam Irvanizam

Associate Professor, PhD Candidate
Department of Informatics
Universitas Syiah Kuala
Banda Aceh / INDONESIA

Profile

B.Sc. Degree in Mathematics (majoring in Informatics) from Universitas Syiah Kuala, Banda Aceh, Indonesia (2002). M.Sc. Degree in Computer Science from the Free University of Bozen-Bolzano, Bolzano, Italy (2010). Currently a PhD candidate in Computer Science at Universitas Sumatera Utara, Medan, Indonesia. Deputy Chairman of the Department of Informatics, Universitas Syiah Kuala (2014 to 2022). Head of the Laboratory for Database and Data Mining, Department of Informatics (2010 to 2014). Currently an Associate Professor in Applied Informatics and Computer Science with the Department of Informatics, Universitas Syiah Kuala.

Author of publications in international journals and conference proceedings, many of which are indexed by Scopus and Web of Science, such as *IEEE Access, Applied Computational Intelligence and Soft Computing, Axioms, Advances in Fuzzy Systems, Heliyon, IREMOS, Journal of Engineering Science and Technology*. Published two book chapters: "Improved MABAC Method for Multicriteria Group Decision Making with Trapezoidal Fuzzy Neutrosophic Numbers" in the "Handbook of Research on Advances and Applications of Fuzzy Sets and Logic" (IGI Global, 2022) edited by Dr. Said Broumi; and "An Extended EDAS Based on Multi-Attribute Group Decision Making to Evaluate Mathematics Teachers With Single-Valued Trapezoidal Neutrosophic Numbers" in the "Handbook of Research on the Applications of Neutrosophic Sets Theory and Their Extensions in Education" (IGI Global, 2023) edited by Dr. Said Broumi.

Member of some professional associations, such as the International Association of Engineers (IAENG) Society of Computer Science, the Institute of Electrical and Electronics Engineers (IEEE), the Association of Higher Education of Informatics and Computer (APTIKOM), and the Institute of Engineers Indonesia (PII).

Research Interests

Neutrosophic Sets, Decision Support Systems, Fuzzy Sets, Soft Computing, Multiple-Attribute Decision Making, Multiple-Criteria Group Decision Making.

List of Publications in Neutrosophics

I. Irvanizam, Z. Zulfan, P. F. Nasir, M. Marzuki, S. Rusdiana, N. Salwa. "An Extended MULTIMOORA Based on Trapezoidal Fuzzy Neutrosophic Sets and Objective Weighting Method in Group Decision-Making." *IEEE Access*, vol. 10, pp. 47476-47498, 2022, DOI: 10.1109/ACCESS.2022.3170565.

Irvanizam Irvanizam, Intan Syahrini, Nawar Nabila Zi, Natasya Azzahra, Muhd Iqbal, Marzuki Marzuki, Muhammad Subianto. "An Improved EDAS Method Based on Bipolar Neutrosophic Set and Its Application in Group Decision-Making." *Applied Computational Intelligence and Soft Computing*, vol. 2021, Article ID 1474629, 16 pages, 2021. DOI: 10.1155/2021/1474629

Irvanizam, Irvanizam, Nawar Nabila Zi, Rahma Zuhra, Amrusi Amrusi, Hizir Sofyan. "An Extended MABAC Method Based on Triangular Fuzzy Neutrosophic Numbers for Multiple-Criteria Group Decision Making Problems." *Axioms* 9, no. 3: 104, 2020. DOI: 10.3390/axioms9030104.

Irvanizam, Irvanizam, Nawar Nabila Zi. "Improved MABAC Method for Multicriteria Group Decision Making with Trapezoidal Fuzzy Neutrosophic Numbers." In *Handbook of Research on Advances and Applications of Fuzzy Sets and Logic*, edited by Said Broumi, 666-691. Hershey, PA: IGI Global, 2022.

Irvanizam, Irvanizam, Novi Zahara. "An Extended EDAS Based on Multi-Attribute Group Decision Making to Evaluate Mathematics Teachers with Single-Valued Trapezoidal Neutrosophic Numbers." In *Handbook of Research on the Applications of Neutrosophic Sets Theory and Their Extensions in Education*, edited by Said Broumi, 666-691. Hershey, PA: IGI Global, 2023.

Jdid Ahmed Maissam

Lecturer in Mathematics
Faculty of Information Technology
Al-Sham Private University (ASPU) / SYRIA
Ph.D. Faculty member
Faculty of Science, Department of Mathematics
Damascus University / SYRIA

Profile

Received her B. Sc. Degree in Mathematics on 1989 from Faculty of Science, Tishreen University, Latakia, Syria. Got her Ph.D. in Mathematical Modelling / Numerical Methods and Program Complexes on 2003 from Faculty of Mathematics, Tver State University, Russia. In 2021-2022, her first scientific contribution in Neutrosophic Theory and Logic has been embodied by some research papers published in an international major journals indexed by Scopus and Clarivate. In addition, participation in scientific conferences in this field, and reviewing neutrosophic books.

List of Publications in Neutrosophics

Maissam Jdid, Rafif Alhabib, A.A. Salama. "The static model of inventory management without a deficit with Neutrosophic logic." *International Journal of Neutrosophic Science*, Vol. 16, 2021

Maissam Jdid, A.A. Salama, Huda E Khalid. "Neutrosophic Handling of the Simplex Direct Algorithm to Define the Optimal Solution in Linear Programming." *International Journal of Neutrosophic Science*, Vol.18, No. 1, 2022

Maissam Ahmed Jdid, A. A. Salama, Rafif Alhabib, Huda E. Khalid, Fatima Suliman. "Neutrosophic Treatment of the Static Model of Inventory Management with Deficit." *International Journal of Neutrosophic Science*, Vol.18, No. 1, 2022

Maissam Jdid, Huda E Khalid. "Mysterious Neutrosophic Linear Models." *International Journal of Neutrosophic Science*, Vol.18, No. 2, 2022

Maissam Jdid, Rafif Alhabib. "Neutrosophical dynamic programming." *International Journal of Neutrosophic Science*, 18(3), 2022

Maissam Jdid, Basel Shahin, Fatima Suliman. "Important Neutrosophic Rules for Decision – Making in Case of Uncertain Data." *International Journal of Neutrosophic Science*, 18(3), 2022

Maissam Jdid, Rafif Alhabib, A.A. Salama. "Fundamentals of Neutrosophical Simulation for Generating Random Numbers Associated with Uniform Probability Distribution." *Neutrosophic sets and Systems*, Vol 49, 2022

Maissam Jdid, Rafif Alhabib, Ossama Bahbouh, A. A. Salama, Huda E. Khalid. "The Neutrosophic Treatment for Multiple Storage Problem of Finite Materials and Volumes." *International Journal of Neutrosophic Science* (IJNS) Vol. 18, No. 1, 2022

Maissam Jdid, Rafif Alhabib, Huda E. Khalid, A. A. Salama. "The Neutrosophic Treatment of the Static Model for the Inventory Management with Safety Reserve." *International Journal of Neutrosophic Science* (IJNS), 18(2), 2022

Maissam Jdid, Huda E Khalid. "An Investigation in the Initial Solution for Neutrosophic Transportation Problems (NTP)." *Neutrosophic Sets and Systems*, Vol.50, 2022

Maissam Jdid, Huda E. Khalid. "Neutrosophic Mathematical formulas of Transportation Problems." *Neutrosophic Sets and Systems*, Vol .51, 2022

Maissam Jdid. "Important Neutrosophic Economic Indicators of the Static Model of Inventory Management without Deficit." *Journal of Neutrosophic and Fuzzy Systems*, 5(1), 2023

Maissam Jdid, Hla Hasan. "The state of Risk and Optimum Decision According to Neutrosophic Rules." *International Journal of Neutrosophic Science*, 20(1), 2023

Maissam Jdid, Rafif Alhabib, A. A. Salama. "The Basics of Neutrosophic Simulation for Converting Random Numbers Associated with a Uniform Probability Distribution into Random Variables Follow an Exponential Distribution." *Neutrosophic Sets and Systems*, Vol. 53, 2023

Mohammed Alshikho, Maissam Jdid, Said Broumi. "Artificial Intelligence and Neutrosophic Machine learning in the Diagnosis and Detection of COVID 19." *Journal Prospects for Applied Mathematics and Data Analysis*, 1(2), 2023

Mohammed Alshikho, Maissam Jdid, Said Broumi. "A Study of a Support Vector Machine Algorithm with an Orthogonal Legendre Kernel According to Neutrosophic logic and Inverse Lagrangian Interpolation". *Journal of Neutrosophic and Fuzzy Systems*, 5(1), 2023

Maissam Jdid, Khalifa Alshaqsi. "Optimal Value of the Service Rate in the Unlimited Model M\M\1." *Journal of Neutrosophic and Fuzzy Systems* (JNFS), 6(1), 2023

Maissam Jdid, A. A. Salama. "Using the Inverse Transformation Method to Generate Random Variables that follow the Neutrosophic Uniform Probability Distribution." *Journal of Neutrosophic and Fuzzy Systems* (JNFS), 6(2), 2023

Florentin Smarandache, Maissam Jdid. "An Overview of Neutrosophic and Plithogenic Theories and Applications." *Applied Mathematics and Data Analysis*, 2(1), 2023

Maissam Jdid. "Neutrosophic Nonlinear Models." *Journal Prospects for Applied Mathematics and Data Analysis*, 2(1), 2023

Maissam Jdid "Neutrosophic Mathematical Model of Product Mixture Problem Using Binary Integer Mutant." *Journal of Neutrosophic and Fuzzy Systems,* 6(2), 2023

Maissam Jdid. "The Use of Neutrosophic linear Programming Method in the Field of Education" In "Handbook of Research on the Applications of Neutrosophic Sets Theory and Their Extensions in Education." Chapter 15, IGI-Global, 2023

Maissam Jdid, Florentin Smarandache, Said Broumi. "Inspection Assignment Form for Product Quality Control." *Journal of Neutrosophic Systems with Applications*, Vol. 1, 2023

Maissam Jdid, Said Broumi. "Neutrosophic Rejection and Acceptance Method for the Generation of Random Variables." *Neutrosophic Sets and Systems*, Vol.56, 2023

Maissam Jdid, Florentin Smarandache. "The Use of Neutrosophic Methods of Operation Research in the Management of Corporate Work." *Journal of Neutrosophic Systems with Applications*, Vol. 3, 2023

Maissam Jdid, Florentin Smarandache. "Lagrange Multipliers and Neutrosophic Nonlinear Programming Problems Constrained by Equality Constraints." *Journal of Neutrosophic Systems with Applications*, Vol. 6, 2023

Maissam Jdid, Florentin Smarandache. "Optimal Neutrosophic Assignment and the Hungarian Method." *Neutrosophic Sets and Systems*, Vol.57, 2023

To appear:

Maissam Jdid. "Studying Transport Models with the Shortest Time According to the Neutrosophic Logic." *Neutrosophic Sets and Systems*.

Maissam Jdid, Florentin Smarandache. "Graphical method for solving Neutrosophical nonlinear programming models." *Neutrosophic Systems with Applications*.

Maissam Jdid, Florentin Smarandache. "Methods for obtaining an optimal solution for Neutrosophic Transport models Starting from a preliminary solution."

Master's theses is in progress:

"Study about Development Three of Machine Learning Algorithms (KNN-SVM- RF) Using Neutrosophic logic."

"Study of Queues Using Neutrosophic logic."

"Neutrosophic Network Planning for General Air Transport Corporation."

Conferences:

PI Day , In Telafer University 28/3/2022

The Seventh International Scientific Conference and the First Virtual of Faculty of Nursing Port Said University 12/5/2022

Sudan Jha

Executive board member
National Nepal Television
Standing Consultant and Expert
Nepal Telecom Authority
Telecom Regulatory Body of Nepal
Ex-Executing Principal & Associate Professor
CSE Engineering College
Kathmandu / NEPAL

Profile

Two Ph.D. with 18+ years of experience in Academics, Academic Administration as a Principal, Research and Software Project Development & Management. Currently, Professor in School of Computer Engineering at Kalinga Institute of Industrial TechnoloDeegy (Deemed to be University), Bhubaneswar, Odisha, India.

50+ SCI, SCIE, ESCI, SCOPUS indexed papers.

Full time Executing Principal in 2 engineering College; HoD in Computer Science & IT Engineering India & Nepal; Standing on Individual Consultant of Nepal Telecom Authority (NTA - Telecom Regulatory Body of Government of Nepal); Ex-Managing Director at MindCrawl Consultancy; Chief Editor/Editor board member in International Journals of high indexing.

URL: http://www.jhasudan.com.np

Research Interests

Wired and Wireless Networking, Software Engineering, Data Mining and Warehousing, Query Processing.

List of Publications in Neutrosophics

Sudan Jha, Raghvendra Kumar, Le Hoang Son, Francisco Chiclana, Vikram Puri, Ishaani Priyadarshini (2019), "Neutrosophic Approach for Enhancing Quality of Signals", *Multimedia Tools and Applications*, in press (SCIE, 2017 IF = 1.541) https://doi.org/10.1007/s11042-019-7375-0

Sudan Jha, Le Hoang Son, Raghvendra Kumar, Ishaani Priyadarshini, Florentin Smarandache, Hoang Viet Long (2018), "Neutrosophic Image Segmentation with Dice Coefficients", *Measurement*, in press (SCIE, 2019 IF = 2.218). https://doi.org/10.1016/j.measurement.2018.11.006

Jha, S., Kumar, R., Son, L.H. et al. (2018), "Neutrosophic soft set decision making for stock trending analysis", *Evolving Systems* (ESCI - Emerging Sources Citation Index) (2018) https://doi.org/10.1007/s12530-018-9247-7

Saliha Karadayi-Usta

Associate Professor in Industrial Engineering
Head of Department
Istinye University
Istanbul / TURKEY

Profile

Industrial Engineering undergraduate education at Doğuş University (2012). Master's degree (2014) and PhD (2020) from Istanbul Technical University, Industrial Engineering Department. Research assistant, and since 2023, Associate Professor with the Industrial Engineering Department of Istanbul Technical University.

Academic works published in journals such as *IEEE Transactions on Engineering Management, Computers and Industrial Engineering, Journal of Fashion Marketing and Management*, and *Interactive Learning Environments*.

Research Fields

Sustainability, Industry 4.0, Digital Transformation, Industrial Engineering, Circular Economy, Sharing Economy, Supply and Value Chain Management, Service Systems, Medical Tourism Service Operations Management, Healthcare Management, Risk Analysis, Risk Management, Lean Manufacturing, Lean Management, Fuzzy Sets and Modeling, Decision Science, Decision Making Behaviour, Forecasting, İstatistik, Statistical Learning, Modeling and Simulation

List of Publications

Saliha Karadayi-Usta. “Neutrosophic Analytic Hierarchy Process for evaluating a new servicizing business model of transportation.” 16th International Symposium of the Analytic Hierarchy Process, Web Conference, Pittsburgh, USA, December 3-6, 2020.

Saliha Karadayı-Usta. “A novel neutrosophic set based hierarchical challenge analysis approach for servicizing business models: A case study of car share service network.” *Computers & Industrial Engineering*, 163 (107795), 2022. DOI: 10.1016/j.cie.2021.107795

Hülya Yılmaz, Saliha Karadayı-Usta, Seda Yanık. “A Novel Neutrosophic AHP-Copeland Approach for Distance Education: Towards Sustainability.” *Interactive Learning Environments*, 2022. DOI: 10.1080/10494820.2022.2141265

Saliha Karadayı-Usta. “A new servicizing business model of transportation: Comparing the new and existing alternatives via neutrosophic Analytic Hierarchy Process.” *Neutrosophic Sets and Systems*, 48, 56-65, 2022. DOI: 10.5281/zenodo.6041314

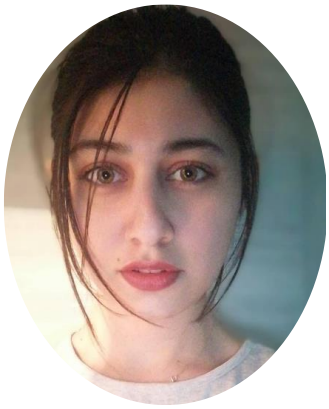
Saliha Karadayı-Usta. “Sürdürülebilir Dijital Hizmetleştirme: Araç Paylaşım İş Modelinin Kavramsal Modellenmesi | Sustainable Digital Servicization: Conceptual Modeling of the Car Sharing Business Model”, *Journal of Yaşar University*, 17(67), 754-775, 2022. DOI: 10.19168/jyasar.999147

Saliha Karadayi-Usta. “A novel neutrosophic Interpretive Structural Modeling approach: Hierarchical visual graphs of indeterminate causalities”. In S. Broumi (Ed.), “Handbook of Research on Advances and Applications of Fuzzy Sets and Logic”, 585-604, 2022. Hershey, PA: IGI Global. DOI: 10.4018/978-1-7998-7979-4

Saliha Karadayi-Usta. “The role of the paper packaging industry in the circular economy: The causal relationship analysis via neutrosophic cognitive maps”. In S. Broumi (Ed.), “Handbook of Research on Advances and Applications of Fuzzy Sets and Logic”, 605-618. Hershey, PA: IGI Global, 2022. DOI: 10.4018/978-1-7998-7979-4

Saliha Karadayı-Usta. “A novel neutrosophical approach in stakeholder analysis for sustainable fashion supply chains.” *Journal of Fashion Marketing and Management*, 27(2), pp. 370–394, 2023. DOI: 10.1108/JFMM-03-2022-0044

Elif Karataş



Researcher
Mathematics Department
Kafkas University
Kars / TURKEY

Profile

BSc (2015) and Msc degree (2017) from Mathematics Department, Çanakkale 18 Mart University, Çanakkale, Turkey. PhD (2023) from Mathematics Department, Kafkas University, in Kars, Turkey.

Research Interests

Fuzzy Sets, Soft Sets, Neutrosophic Sets, Neutrosophic Soft Sets, Decision-Making.

List of Publications in Neutrosophics

Yolcu, A., Karatas, E., Ozturk, T. Y. "A new approach to neutrosophic soft mappings and application in decision making." N*eutrosophic Operational Research: Methods and Applications*, 291-313, 2021.

Öztürk, T. Y., Karataş, E., & Yolcu, A. On neutrosophic soft continuous mappings. *Turkish Journal of Mathematics*, 45(1), 81-95, 2021.

Karataş, E., Ozturk, T. Y. "An Application Method for the use of Neutrosophic Soft Mappings in Decision-Making the Diagnosis of Covid-19 and Other Lung Diseases." *Process Integration and Optimization for Sustainability*, 1-14, 2022.

Fentahun Moges Kasie

Associate Professor
Department of Industrial Engineering
Institute of Technology
Hawassa University
Hawassa / ETHIOPIA

Profile

Ph.D. degree in Mechanical Engineering at the University of KwaZulu, Natal, Durban, South Africa, with the thesis "Development of a Decision Support System for Decision-Based Part/Fixture Assignment and Fixture Flow Control". Associate Professor at Hawassa University since 2020.

Publications in peer-reviewed and reputable journals and conference proceedings. Participated in different peer-reviewing activities with different journals such as *Benchmarking: An International Journal, Journal Industrial Engineering and Management, International Journal of Productivity and Performance Management*, etc.

Research Interests

Decision Support Systems (DSS), Case-Based Reasoning, Multiple Criteria Decision-Making (MCDM), Discrete-Event Simulation (DES), Concurrent Engineering, Manufacturing Performance Analysis.

List of Publications in Neutrosophics

Kasie, F.M, Bright, G. "Cutting tools assignment and control using neutrosophic case-based reasoning and best worst method." *Advances in Operations Research*, Article ID 4344686, 2022.

Kavitha M.

Assistant Professor, PhD
Department of Mathematics
Bharath Institute of Higher Education and Research
Faculty of Arts and Science
Chennai, Tamil Nadu / INDIA

Profile

B.Sc. (Maths) from Annamalai Univesity in 2009. B.Ed. from Educational University in 2010. M.Sc. (Maths) from Madras University in 2012. M. Phil (Maths) from Thiruvalluvar University in 2013. Ph.D. from Annamalai University with the thesis " A Study on Fuzzy Neutrosophic Soft Matrices with Related Aspects on Eigenvectors of the Matrices", awarded in 2019.

Research Interests

Fuzzy Matrices, Neutrosophic Soft Matrices, Picture Fuzzy Matrices.

List of Publications in Neutrosophics

M. Kavitha, P. Murugadas, S. Sriram. "Minimal Solution of Fuzzy Neutrosophic Soft Matrix." *Journal of Linear and Topological Algebra*. 6(2), (2017), 171-190.

M. Kavitha, P. Murugadas, S. Sriram. "Computing greatest X-Eigenvector of Fuzzy Neutrosophic Soft Matrix." *International Journal of Mathematics and its Application*. 5,(4), 893-907, 2017.

M. Kavitha, P. Murugadas, S. Sriram. "On the Robustness of Fuzzy Neutrosophic Soft Matrix." *International Journal Fuzzy Mathematical Archive*, 14(2), 267-286, 2017.

M. Kavitha, P. Murugadas, S. Sriram. "T-Ordering on Fuzzy Neutrosophic Soft Matrices." *International Journal of Pure and Applied Mathematics*, 120 (6), 7641-7651, 2018.

M. Kavitha, P. Murugadas, S. Sriram. "Minus-Ordering on Fuzzy Neutrosophic Soft Matrices." *International Journal of Pure and Applied Mathematics*, 120(6), 7665-7675, 2018.

M. Kavitha, P. Murugadas, S. Sriram. "On the Powers of Fuzzy Neutrosophic Soft Matrices", *Journal of Linear and Topological Algebra* 7(2), 133-147, 2018.

P. Murugadas, M. Kavitha, S. Sriram. "Monotone fuzzy neutrosophic Soft Eigenspace Structure in max-min Algebra." AIP Conference Proceedings 2177, 020048, 2019.

P. Murugadas, M. Kavitha, S. Sriram. "Monotone interval fuzzy neutrosophic soft eigenproblem", *Malaya Journal of Mate Matlk* 8(1), 342-350, 2019.

M. Kavitha, P. Murugadass, S. Sriram. "Periodicity of Interval Fuzzy Neutrosophic Soft Matrices", *Advances in Mathematics: Scientific Journal* (Scopus, H Index), 9(4), 1661–1670, 2020.

A. Logeswari, M. Kavitha. "M/M/1 queueing model by using inventory theory." *Malaya Journal of Matematik*, S2, 3803-3806, 2020.

T. Narayana Swamy, M. Kavitha. “A review in statistical analysis of correlation and its applications.” *Malaya Journal of Matematik*, S2, 3818-3821, 2020.

P. Murugadas, M. Kavitha. “Solvability of System of Neutrosophic Soft Linear Equation.” *Neutrosophic Sets and System* 40, 253-269, 2021.

M. Kavitha, P. Murugadas. “Convergence of the Power Sequence of a Monotone Incresing Neutrosophic Soft Matrix.” AIP Conference Proceedings 2364, 020021, 2021.

P. Murugadass, M.Kavitha. “Convergence of Fuzzy Neutrosophic Soft Matrix.” *Journal Physics* (IOP Conference Series), 1850, 2021.

M. Kavitha, P. Murugadass. “Composition of Neutrosophic Soft Matrices.” *Aryabhata Journal of Mathematics & Informatics*, 14, 2022, 71-82, UGC Journal.

M. Kavitha, P. Murugadass. “Eigen Space of Fuzzy Neutrosophic Soft Matrices.” *Neutrosophic Set and System*, 50, 591-601, 2022.

Bharathi. M, M. Kavitha. “The Conundrum Of The Indian Financial Market Multipler Policy Prescription To Kick Start The Corporate Debt Market in India.” *IJFANS*, 11(9), 256-274, 2022.

K. Umachithra, M. Kavitha. “Solution Methods For Multiobjective Combinatorial Optimization Problems.” *IJFANS*, 11, 1182-1189, 2022.

A. Sebasthiyar, M. Kavitha, P. Murugadass. “An Emergency Response of Dyadic Intelligent Fuzzy Decision Process to Diagnose of Omicron, Scientific Hub of Applied Research in Engineering & Information Technology”, 3(1), 1-9, 2023.

M. Kavitha, P. Murugadass. “Generalization of Picture Fuzzy Matrix.” *TWMS J. App. Eng. Math.*, Accepted on 12.07. 2022.

M. Kavitha, P. Murugadas. “Controllable Fuzzy Neutrosophic Soft Matrices”, ICRDM 2022 (Springer Book Series *Trends in Mathematics*), Accepted on 12.05.23.

M. Kavitha, P. Murugadass. “Generalized Inverse of Centro symmetric and K-Centrosymmetric Fuzzy Neutrosophic Soft Matrices.” AIP Journal (Submitted).

Nour Eldeen Mahmoud Khalifa

Associate Professor
Faculty of Computers and Artificial Intelligence
Cairo University
Cairo / EGYPT

Profile

BSc, M.Sc., and Ph.D. degree in 2006, 2009 and 2013 respectively, all from Cairo University, Faculty of Computers and Artificial Intelligence, Information Technology Department, Cairo, Egypt. Professional M.Sc. in Cloud Computing in 2018.

Member of the Institute of Electrical and Electronics Engineers (IEEE) and National Cybersecurity Task Force in Egypt. Member of the permanent committee of international universities ranking in Cairo University and a member of CU president technical office. Cairo University Award for Encouragement in Engineering in 2021 for distinguished publications records. Authored/coauthored more than 40 publications and 3 edited books. More than 2500 citations. Reviewed several papers for international journals and conferences. Academic editor in various journals such as Plos One journal. His name was included in the top 2% scientists around the world in the Stanford University list in 2021.

URL: https://scholar.cu.edu.eg/nourmahmoud

Research Interests

Wireless Sensor Networks, Cryptography, Multimedia, Wireless Communication Security, Neutrosophic Research and Applications, Network Security, Cloud, Machine, Deep Learning.

List of Publications in Neutrosophics

Khalifa, N. E. M., Smarandache, F., Manogaran, G., Loey, M. "A study of the neutrosophic set significance on deep transfer learning models: An experimental case on a limited covid-19 chest x-ray dataset." *Cognitive Computation*, 1-10, 2021.

Khalifa, N. E., Loey, M., Chakrabortty, R. K., Taha, M. H. N. "Within the Protection of COVID-19 Spreading: A Face Mask Detection Model Based on the Neutrosophic RGB with Deep Transfer Learning." *Neutrosophic Sets and Systems*, 50, 320-335, 2022.

Vakeel A. Khan

Associate Professor of Mathematics
Department of Mathematics
Aligarh Muslim University
Aligarh / INDIA

Profile

Associate Professor in the Department of Mathematics, Aligarh Muslim University, Aligarh, India. Dr Khan has successfully guided 15 PhD and 4 MPhil students. He has authored two textbooks entitled Basics of Functional Analysis and Basics of Differential Equations published by Alpha Science International Ltd. Oxford, U.K. and Narosa Publishing House Pvt. Ltd. He has published more than 150 research papers in reputed International Journals, including Information Sciences (Elsevier) SCIE (Impact factor: 5.524), Applied Mathematics Letters (Elsevier) SCIE (Impact factor:3.848), Soft Computing (Springer-Verlag) SCIE (Impact factor:3.643), Journal of Inequalities and Applications (Springer-Verlag) SCIE (Impact factor: 2.491), Advances in Difference Equations (Springer - Verlag) SCIE (Impact factor:2.421), Ricerche di Matematica (Springer-Verlag) SCIE (Impact factor:1.034),Rev. Real Acad. Cienc. Exactas Fis. Nat. Ser. A-Mat(Springer - Verlag) SCIE (Impact factor:2.169), Applied Mathematics A Journal of Chinese Universities and Springer- Verlag(CHINA)SCIE (Impact factor: 0.806), Numerical Functional analysis and Optimization (Taylor's and Francis) SCIE (Impact Factor :1.212) etc. Dr Khan is also associated with Mathematical Reviews (USA) as a Reviewer.

Research Interests

Functional Analysis, Sequence Spaces, Fuzzy Set Theory, Neutrosophic Set, Neutrosophic Logic, Neutrosophic Probability, Plithogenics, HyperSoft Sets.

List of Publications in Neutrosophics

VA Khan, H Fatima, MD Khan, A Ahamd. "Spaces of neutrosophic λ-statistical convergence sequences and their properties." *J. Math. Comput. Sci* 23 (1), 1-9, 2021

VA Khan, MD Khan, M Ahmad. "Some results of neutrosophic normed spaces via Fibonacci matrix." Infinite Study, 2021

VA Khan, A Esi, M Ahmad, M Daud Khan. "Continuous and bounded linear operators in neutrosophic normed spaces." *Journal of Intelligent & Fuzzy Systems* 40 (6), 11063-11070, 2021

V.A. Khan, M.D. Khan, M. Ahmad. "Some new type of lacunary statistically convergent sequences in neutrosophic normed space." *Neutrosophic Sets and Systems* 42 (1), 15, 2021

VA Khan, MD Khan. “Some topological character of neutrosophic normed spaces.” *Neutrosophic Sets Syst* 47 (9), 397-410, 2021

VA Khan, MD Khan. “Nonlinear operators between neutrosophic normed spaces and Fréchet differentiation”. *Journal of Inequalities and Applications* (1), 1-13, 2022

VA Khan, U Tuba, ASK Rahaman. “Motivations and basic of fuzzy, intuitionistic fuzzy and neutrosophic sets and norms.” *Yugoslav Journal of Operations Research*, 11-11, 2022

VA Khan, M Arshad, MD Khan. “Some results of neutrosophic normed space VIA Tribonacci convergent sequence spaces.” *Journal of Inequalities and Applications* 1, 1-27, 2022

VA Khan, M Arshad, M Alam. “Riesz ideal convergence in neutrosophic normed spaces.” *Journal of Intelligent & Fuzzy Systems*, 1-10, 2023

VA Khan, KMAS Alshlool, SAA Abdullah. “A Study of Fibonacci Difference I–Convergent Sequence Spaces.” *Sequence Space Theory with Applications*, 114-138, 2023

Zahid Khan

Assistant Professor
Department of Mathematics and Statistics
Hazara University
Mansehra, Dhodial / PAKISTAN

Profile

PhD from the University Technology Petronas, Malaysia, in 2017. Recipient of the Talent Award Scholarship from the Higher Education Commission of Pakistan in 2006; a fellowship from Quaid-i-Azam University in 2007; another fellowship from University Technology Petronas in 2013.

Research Interests

Robust Estimation in Fuzzy Probability Distributions, Neutrosophic Statistics, Neutrosophic Statistical Methods for Industrial Process Control.

List of Publications in Neutrosophics

Khan, Z., Gulistan. M. "Neutrosophic design of the exponential model with applications." *Neutrosophic Sets and Systems*, 48, 291-305, 2022. DOI: 10.5281/zenodo.6041520

Khan, Z., Almazah, M. M. A., Odhah., O. H., Alshanbari, H. M. "Generalized Pareto Model: Properties and Applications in Neutrosophic Data Modeling." *Mathematical Problems in Engineering*, 2022. DOI: 10.1155/2022/3686968

Rehman, A. U., Gulistan, M., Khan, Z., Al-Duais, F. A. "A Study of Neutrosophic Cubic Hesitant Fuzzy Hybrid Geometric Aggregation Operators and its Application to Multi Expert Decision Making System." *Neutrosophic Sets and Systems*, 50, 83-110, 2022. DOI: 10.5281/zenodo.6774643

Hifza, M.; Gulistan, M.; Khan, Z.; Al-Shamiri Azhar M.; Ali, A.; David, M. "A new fuzzy decision support system approach; analysis and applications." *AIMS Mathematics*, 7(8), 14785–14825, 2022

Mansour F. Yassen F.S. Alduais, Almazah, M.M.A, Khan, Z. "Estimation of the Kumaraswamy Distribution Parameters Using the E-Bayesian Method." *Alexandria Engineering Journal*, 61, 11099-11110, 2022. DOI: 10.101/j.aej.2022.04.040

Shah, F., Aslam, M., Khan, Z., Almazah. M.A.M., Fuad S.A. "On Neutrosophic Extension of the Maxwell Model." *Journal of Function Spaces*, 2022.DOI: 10.1155/2022/4536260

Tanoli, M.N.K.; Gulistan, M.; Amin, F.; Khan, Z; Shamiri. "Complex Cubic Fuzzy Einstein Averaging Aggregation Operators: Application to Decision-making Problems." *Cognitive Compution*, 2023. DOI: 10.1007/s12559-022-10100-9

Ibrahim, A.M.M., Khan, Z., Al-Duais, F.S. "A New Modified Logistic Distribution: Properties and Applications in Uncertainty Data Modeling." *International Journal of Neutrosophic Science*, 20(2), 27-39, 2023. DOI: 10.54216/IJNS.200203

Luay Abd Al-Haine Al-Swidi

Professor
University of Babylon
College of Education for Pure Sciences
Department of Mathematics
Babylon, Hilla / IRAQ

Profile

BSc Degree in Sciences Mathematics from University of Baghdad, College of Education for Pure Sciences (Ibn Al-Haitham) in 1987. MSc Degree in Sciences Mathematics from University of Baghdad, College of Education for Pure Sciences (Ibn Al-Haitham) in 1990. PhD in Mathematics from Mustansiriyah University, College of Science in 1999. Professor in the Department of Mathematics at the University of Babylon since 2008.

Published cca. 150 research articles in international peer-reviewed journals, including ISI Indexed / IF Journal publications, including *Neutrosophic Sets and Systems, International Journal of Neutrosophic, Baghdad Science Journal, Taylor and Francis AIP Conference Proceedings, IOP Conference Series, Journal of Physics,* etc. Editorial Member of 12 international academic journals. Reviewer/Referee for 88 International Journals, including *Mathematical Reviews* (USA). Important books developing the ideas of topology.

Research Interests

Fuzzy Topological Spaces, Ideal Topological Spaces, Proximity Spaces, Topological Group, Uniform Spaces, Algebraic Topology, Soft Topological Spaces, Fuzzy Sotf Topological Spaces, Soft Fuzzy Topological Spaces.

Neutrosophic Research

Neutrosophic Crisp Set, n-Valued Refined Neutrosophic Crisp Set, Quadripartitioned Neutrosophic Crisp Set, Pentapartitioned Neutrosophic Crisp Set, Neutrosophic Fuzzy Sets, Hyper Soft Set, Super Hyper Algebra.

List of Publications in Neutrosophics

Ahmed B. AL-Nafee, Said Broumi, Luay A. Al-Swidi. “n-Valued Refined Neutrosophic Crisp Sets.” *International Journal of Neutrosophic Science*, 17(2), 87-95, 2021. DOI: 10.54216/IJNS.170201

Mustafa Hasan Hadi, L. A.A. Al-Swidi. “The Neutrosophic Axial Set Theory.” *Neutrosophic Sets and Systems*, 51, 295-302, 2022. DOI: 10.5281/zenodo.7135299

Soheyb Milles

Associate Professor
University Center of Barika
Barika, Batna / ALGERIA

Profile

M.Sc. Degree in Mathematics (2007); Postgraduate degree in Mathematical Logic (2010); PhD in Applied Algebra (2017); Habilitation degree (2020). Currently, Associate Professor and Assistant Director in charge with post-graduation, scientific research and external relations at the University Center of Barika (Algeria).

Research interests

Neutrosophic Set Theory, Lattice Theory, Fixed Point Theory.

List of Publications in Neutrosophics:

Soheyb Milles, Lemnaouar Zedam, Abdelhamid Bennoui. (2023). Several types of single-valued neutrosophic ideals and filters on a lattice, *TWMS J. App. and Eng. Math*, 13(1), 175-188.

Lemnaouar Zedam, Soheyb Milles, Abdelhamid Bennoui. (2021). Ideals and filters on a lattice in neutrosophic setting, *Applications and Applied Mathematics*, 16(2), 1140-1154.

Soheyb Milles, Nacereddine Hammami. (2021). Neutrosophic topologies generated by neutrosophic relations, *Algerian Journal of Engineering, Architecture and Urbanism*, 5 (2), 417-426.

Soheyb Milles, Abdelkrim Latreche, Omar Barkat. (2021). "More on standard single valued neutrosophic metric spaces." *Journal of Innovative Applied Mathematics and Computational Sciences*, 1, 40-47.

Abdelkrim Latreche, Omar Barkat, Soheyb Milles, Farhan Ismail. (2020). "Single valued neutrosophic mappings defined by single valued neutrosophic relations with applications." *Neutrosophic Sets and Systems*, 32, 203-220.

Soheyb Milles, Abdelkrim Latreche, Omar Barkat. (2020). "Completeness and compactness in standard single valued neutrosophic metric spaces." *International Journal of Neutrosophic Science*, 12 (2), 96-104.

Omar Barkat, Soheyb Milles, Abdelkrim Latreche. "Standard single valued neutrosophic metric spaces with application." *TWMS J. App. & Eng. Math*, accepted.

Conferences in Neutrosophics

Soheyb Milles. (2023). International Conference on Mathematics and its Applications (ICMA'23), Neutrosophic Ideals and Filters on Topologies Generated by Neutrosophic Relations, Deir-Zor, Syria.

Soheyb Milles. (2022). La Conférence Nationale Nouvelles Tendances en Mathématiques Théoriques et Computationnelles (CNNTMTC'22), Some recent results on neutrosophic ideals and filters, Tamanghasset, Algeria.

Soheyb Milles. (2022). The Second National Conference on Mathematics and Its Applications (SCNMA'22), Particular neutrosophic subsets on a lattice, BBA, Algeria.

Soheyb Milles. (2021). International E-Conference on Pure and Applied Mathematical Sciences (ICPAMS'21), Completeness and Compactness in Standard Single Valued Neutrosophic Metric Spaces, Tunis, Tunisia.

Soheyb Milles. (2021). Séminaire International sur les Mathématiques et l'Informatique (SIMI'21), Neutrosophic Topologies Generated by Neutrosophic Relations with Applications, Oran, Algeria.

Siti Nurul Fitriah Mohamad

Senior Lecturer
Faculty of Computer and Mathematical Sciences
Universiti Teknologi MARA
Campus Machang, Kelantan / MALAYSIA

Profile

B.Sc. (Mathematics) in 2010, and M.Sc. (Mathematics) in 2011 from Universiti Sains Malaysia (USM) Pulau Pinang, Malaysia. Currently, Lecturer in Mathematics at the Faculty of Computer and Mathematical Sciences, UiTM Campus Machang, Malaysia, and Ph.D. candidate with the Universiti Malaysia Terengganu (UMT), Malaysia.

Research Interests

Fuzzy Graphs, Neutrosophic Graphs.

List of Publications in Neutrosophics

Mohamad, S. N. F., Hasni, R., Yusoff, B., Jan, N., Kamran, M. "Novel concept of interval-valued neutrosophic incidence graphs with application." *Neutrosophic Sets and Systems*, 43, 61-82, 2021.

Alias, S., Mohamad, D., Shuib, A., Yusoff, N. S. M., Abd, N., Mohamad, S. N. F. "Medical Diagnosis via Distance-based Similarity Measure for Rough Neutrosophic Set." *Neutrosophic Sets and Systems*, 46, 142-150, 2021.

Mohamad, S. N. F., Hasni, R., Smarandache, F., Yusoff, B. "Novel concept of energy in Bipolar single-valued neutrosophic graphs with applications." *Axioms*, 10(3), 172, 2021.

Siti Nurul Fitriah Mohamad, Suriana Alias, Norarida Abd Rhani, Hazwani Hashim. "An Innovative Approach to Solve Shortest Path Problem Using Dijkstra's Algorithm Based on Interval-Valued Bipolar Neutrosophic Information." *Applied Mathematics and Computational Intelligence* (AMCI), 12(1), 125–145, 2023.

Kshitish Kumar Mohanta

Research Scholar
Department of Mathematics
Indira Gandhi National Tribal University
Amarkantak, Madhya Pradesh / INDIA

Profile

Bachelor of Science degree in Mathematics from Udala College, Udala, in 2016. Master of Science degree in Mathematics from Sambalpur University, Burla, in 2018. MPhil degree in Mathematics from Gangadhar Meher University, Sambalpur, in 2020. PHD candidate in the Department of Mathematics at Indira Gandhi National Tribal University, Amarkantak, India. Authored more than 15 journal articles and published in nationally and internationally peer-reviewed journals.

Research Interests

Operation Research, Data Envelopment Analysis; Neutrosophic theory, Supply Chain Management, Fuzzy Optimization, Decision Support System, Cryptography, Performance Analysis.

List of Publications in Neutrosophics

Mohanta, K. K., Chaubey, V., Sharanappa, D. S., Mishra, V. N. "A modified novel method for solving the uncertainty linear programming problems based on triangular neutrosophic number." *Transactions on Fuzzy Sets and Systems*, 1(1), 155-169, 2022. DOI: 10.30495/TFSS.2022.1956751.1022

Mohanta, K. K., Sharanappa, D. S., Mishra, V. N. "Neutrosophic data envelopment analysis based on the possibility mean approach." *Operation Research and Decision*, 33(2): 81-98, 2023. DOI: 10.37190/ord230205

Mohanta, K. K., Toragay, O. "Enhanced Performance Evaluation through Neutrosophic Data Envelopment Analysis Leveraging Pentagonal Neutrosophic Numbers." *Journal of Operational and Strategic Analytics*, 1(2), 70–80, 2023. DOI: 10.56578/josa010204

Mohanta, K. K., Sharanappa, D. S. "A novel method for solving neutrosophic data envelopment analysis models based on single value trapezoidal neutrosophic numbers." *Soft Computing*, 2023. DOI: 10.1007/s00500-023-08872-9

Mohanta, K. K., Sharanappa, D. S., Aggarwal, A. "Novel Modified Khatter's Approach for Solving Neutrosophic Data Envelopment Analysis." *Croatian Operational Research Review*, 14(2), 15-28, 2023. DOI: 10.17535/crorr.2023.0002

Mohanta, K. K., Sharanappa, D. S., Aggarwal, A. "Value and Ambiguity Index-based Ranking Approach for Solving Neutrosophic Data Envelopment Analysis." *Neutrosophic Sets and Systems*, 2022. (Communicated)

Mohanta, K. K. & Sharanappa, D. S. "Development of the Neutrosophic Two Stage Network Data Envelopment Analysis to Measure the Performance of the Insurance Industry." *Neutrosophic Sets and Systems*, 2023. (Communicated)

Debapriya Mondal

Research Scholar
Department of Mathematics
Indian Institute of Engineering Science and Technology (IIEST)
Shibpur, Howrah-711103, West Bengal / INDIA

Profile

Bachelor of Science in Mathematics in 2013 from Hooghly Mohsin College, University of Burdwan, West Bengal, India. Master of Science in Mathematics in 2015 from the Indian Institute of Engineering Science and Technology, Shibpur, West Bengal, India. B.Ed. in 2017 from the University of Burdwan, West Bengal, India. Research scholar in the Department of Mathematics, Indian Institute of Engineering Science and Technology, Shibpur, under the guidance of Dr. Shariful Alam and Dr. Gopal Chandra Roy.

Research Interests

Fuzzy Set, Fuzzy Number, Fuzzy Differential Equations, Neutrosophic Set, Neutrosophic Number, Neutrosophic Differential Equations, Picture Fuzzy Set, Picture Fuzzy Number, Picture Fuzzy Differential Equations, Type-2 Fuzzy Set, Type-2 Fuzzy Number, Type-2 Fuzzy Differential Equations, Mining Safety Model System, Oil and Gas Industry Safety Model, Nuclear Power Plant Safety Model System.

List of Publication in Neutrosophics

Mondal, D., Tudu, S., Roy, G.C., Roy, T.K. “A Model Describing the Neutrosophic Differential Equation and Its Application On Mine Safety.” *Neutrosophic Sets and Systems*, 46, 386-401, 2021

Mondal, D., Garai, T., Roy, G.C., Alam, S. “Evaluating the nuclear power plant safety system under neutrosophic environment.” *Neutrosophic Sets and Systems*, 2023 (Communicated).

Khalid Naeem

Associate Professor
Department of Mathematics
Federal Govt. Degree College for Men
Kharian Cantt. / PAKISTAN

Profile

M.Sc. Degree in Mathematics from University of the Punjab, Lahore, Pakistan. M. Phil and Ph.D. degrees in Mathematics from The University of Lahore, Lahore, Pakistan. Head of Mathematics Department at Federal Govt. Degree College for Men, Kharian Cantt., Pakistan.

Published more than 23 research articles in national and international journals, including *Journal of Intelligent & Fuzzy Systems, Complex & Intelligent Systems, Neutrosophic Sets & Systems, Computational & Applied Mathematics, Granular Computing, International Journal of Intelligent Systems, AIMS Mathematics, Journal of Mathematics, International Journal of Biomathematics, Punjab University Journal of Mathematics, Annals of Fuzzy Mathematics & Informatics*.

Research Interests

Fuzzy Mathematics, Soft Set Theory, Neutrosophic Sets, Sigma Algebra, Modeling Uncertainties, Novel Hybrid Structures and Topology, Artificial Intelligence, Business Analysis, Computational Intelligence, Pattern Recognition.

List of Publications in Neutrosophics

Naeem, K., Davvaz, B. “Information measures for MADM under m-polar neutrosophic environment.” *Granul. Comput.* 8, 597–616, 2023. DOI: 10.1007/s41066-022-00340-3

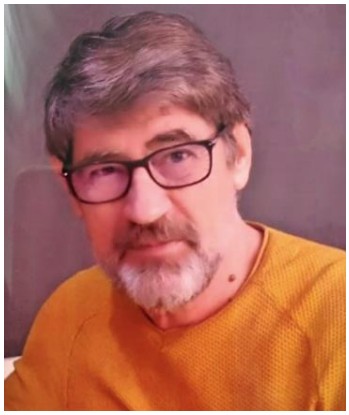
Siraj, Atiqa; Khalid Naeem; Broumi Said. “Pythagorean m-polar Fuzzy Neutrosophic Metric Spaces.” *Neutrosophic Sets and Systems* 53, 562-579, 2023. https://digitalrepository.unm.edu/nss_journal/vol53/iss1/33

Siraj, A., Fatima, T., Afzal, D., Naeem, K., Karaaslan, F. “Pythagorean m-polar Fuzzy Neutrosophic Topology with Applications.” *Neutrosophic Sets and Systems*, 48, 251-290, 2022. http://fs.unm.edu/NSS2/index.php/111/article/view/2103

Naeem, K., Riaz, M. Afzal, D. “Fuzzy Neutrosophic Soft σ-algebra and Fuzzy Neutrosophic Soft Measure with Applications.” 39(1) : 277-287, 2020. DOI: 10.3233/JIFS-191062

Riaz, M; Naeem, K; Zareef, I; Afzal, D. “Neutrosophic N-Soft Sets with TOPSIS method for Multiple Attribute Decision Making.” *Neutrosophic Sets and Systems* 32, 146-170, 2020. https://digitalrepository.unm.edu/nss_journal/vol32/iss1/11

Ion Nălbitoru



Independent Writer
Brezoi, Valcea / ROMANIA

Profile

Graduated from the Construction Institute of the Hydrotechnichal Faculty, Bucharest. Worked as a dam engineer on the Olt River, then in forestry. Member of the Romanian Writers League and a member of the Professional Journalists Union of Romania.

Wrote prefaces, literary chronicles, poems, epigrams, novels, theater plays, pamphlets, etc., interviewed different cultural personalities, promoted culture, customs, and the tradition and the ethnography of Romanians in online journals and newspapers, as well as in hardcover, both in Romania and outside. Coordinated anthologies, organized poetry contests, drama, and short prose.

List of Publication in Neutrosophics

"Prof. Univ. Dr. Florentin Smarandache de la Universitatea New Mexico, S.U.A, și Logica neutrosofică" (interview in Romanian)

"Evoluție Neutrosofică în Spirală în viziunea prof. univ. dr. Florentin Smarandache și a scriitorului și jurnalistului Andrușa R. Vătuiu" (article in Romanian)

"Paradoxul distrugerii unui sistem neutrosofic dinamic din interiorul lui în viziunea prof. univ. dr. Florentin Smarandache și a publicistului Andrușa Vătuiu" (article in Romanian)

"Florentin Smarandache - un savant român pe scena științei mondiale" (article in Romanian)

R. Narmada Devi

Associate Professor
Department of Mathematics
Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology
Chennai / INDIA

Profile

Ph.D. in Mathematics from Sri Sarada College for Women (Autonomous), Affiliated to Periyar University, Salem, Tamil Nadu, India, in 2014, with the thesis "Contributions to the study on vague fuzzy digital structure connectedness and intuitionistic fuzzy structure rings". M.Sc. in Mathematics from Sri Sarada College for Women (Autonomous), Affiliated to Periyar University, Salem, Tamil Nadu, Indiain 2010. B.Sc. in Mathematics from Govt. Arts College for Women, Salem, Tamil Nadu, India, in 2008.

Assistant Professor at the P.G. Department of Mathematics, Women's Christian College, Chennai, from 2014 to 2015. Assistant Professor (as FIP Post) at the Department of Mathematics, Lady Doak College, Madurai, from 2015 to 2017. Assistant Professor at the Department of Mathematics, Lady Doak College, Madurai in 2017.

Guided three Ph.D. Scholars, and 12 MsC. students in Women's Christian College, Chennai and Lady Doak College, Madurai, from 2015 to 2022, on the topics like Fuzzy Rough Topology, Fuzzy Graph and Neutrosophic Graphs.

Reviewer for the following Journals: *American Mathematical Society (AMS), British Journal of Mathematics and Computer Science, Annals of Fuzzy Mathematics and Informatics (AFMI), Neutrosophic Set and Systems(NSS), Creative Mathematics and Informatics, International Journal of Fuzzy System (IJFS), International Journal of Neutrosophic Science(IJNS)*.

Research Interests

Topology, Functional Analysis, Operation Research, Fuzzy Sets and Their Applications, Mechanics, Trigonometry and Theory of Equations, Ordinary and Partial Differential Equations, Calculus and Special Functions, Vector Analysis, Differential Geometry, Discrete Mathematics

List of Publications in Neutrosophics

R. Narmada Devi, D. Vidhya. "Finite State Machine Via Bipolar Neutrosophic Set Theory." *Journal of Fuzzy Mathematics*, Vol. 25, No.4, 2017, 865-884

R. Narmada Devi. "Neutrsophic complex N-continuity."*Annals of Fuzzy Mathematics and Informatics*, Vol. 13, No. 1, 2017, 109–122

R. Dhavaseelan, S. Safari, R. Narmada Devi, Md. Hanif Page. "Neutrosophic Baire Spaces." *Neutrosophic Sets and Systems*, Vol. 16, No. 3, 2017, 20-23

R. Narmada Devi, R. Dhavaseelan, S. Jafari. "On Separation Axioms In An Ordered Neutrosophic Bitopological Space." *Neutrosophic Sets and Systems,* 18 (2017), 27-36

R. Narmada Devi, N. Kalaivani, S. Broumi, A.Venkatesan. "Characterizations of Strong and Balanced Neutrosophic Complex Graphs." *International Journal of Engineering and Technology* (IJET), 7 (4.10), (2018), 593-597

N Kalaivani, R. Narmada Devi, T Gunasekar. "Characterizations of $(\gamma\beta)\alpha$ (I,K) - Continuous mappings in Ideal Topological Spaces." *International Journal of Engineering and Technology* (IJET), 7 (4.10), (2018), 1041-1045

R.Dhavaseelan, R. Narmada Devi, S. Jafari. "Neutrosophic Nowhere Dense Sets." *Neutrosophic Sets and Systems*, 16,(2017), 20-23

R. Narmada Devi, R.Dhavaseelan and S. Jafari. "A Novel on ℵS Contra Strong Precontinuity." *Neutrosophic Sets and Systems*, 2019, 27, 70-79

Dhavaseelan R., Narmada Devi R., Jafari S., Qays Hatem Imran. "Neutrosophic - αm-continuity." *Neutrosophic Sets and Systems*, 2019, 27, 171-179

R. Narmada Devi. "Ordered neutrosophic fuzzy convergence bitopological spaces." *International Journal of Innovative Technology and Exploring Engineering* 2019, 8(8), 1410-1416

R. Narmada Devi. "View on homeomorphism and Urysohn space via neutrosophic complex Gδ-α locally closed sets." AIP Conference Proceedings 2112, 020019 (2019)

R. Narmada Devi, R. Dhavaseelan. "New type of neutrosophic off graphs." *Advances in Mathematics: Scientific Journal,* 2020, 9(3), 1331-1338

R. Narmada Devi. "Minimal domination via neutrosophic over graphs." AIP Conference Proceedings (2020), 100019-1-100019-7

R. Narmada Devi. "A novel of neutrosophic τ-structure ring ExtB and ExtV space." *Neutrosophic Sets and Systems*, 32, 2020, 171-186

R. Narmada Devi. "Novel Idea of NGδ-α- Locally Continuous Functions." *International Journal of Neutrosophic Science* (IJNS), 13(2), 2021, 61-65

R. Narmada Devi and G. Muthumari. "Properties on Topologized Domination in Neutrosophic Graphs." *Neutrosophic Sets and Systems,* Vol. 47, 2021, 511-519

R. Narmada Devi and G. Muthumari. "View On Neutrosophic Over Topologized Domination Graphs." *Neutrosophic Sets and Systems*, Vol. 47, 2021, 520-532

Narmada Devi Rathinam, G. Muthumari and J Bravelin Jersha. "Properties of Detour Central and Detour Boundary Vertices in Neutrosophic Graphs." *International Journal of Neutrosophic Science* (IJNS), Vol. 18, No.3, 84-92, 2022

Nguyen Tho Thong

Lecturer
Faculty of Computer Science and Engineering
Thuyloi University
Hanoi / SR VIETNAM

Profile information

Bachelor Degree in Mathematics and Computer Science in 2011 from VNU University of Science. Master Degree in Information System from the University of Engineering and Technology, Vietnam, in 2015. PhD program in Information System at VNU University of Engineering and Technology, Vietnam National University, Hanoi, Vietnam, in 2021.

Participated in research projects on soft computing, artificial intelligence, data analysis, such as the National Foundation for Science and Technology of Vietnam. Involved in the development of some large software or AI systems with strong programming skills.

Research Interests

Soft Computing, Artificial Intelligence, Data Analysis.

List of Publications in Neutrosophics

Thong, N. T., Dat, L. Q., Hoa, N. D., Ali, M., Smarandache, F. "Dynamic interval valued neutrosophic set: Modeling decision making in dynamic environments." *Computers in Industry*, 108, 45-52, 2019

Dat, L. Q., Thong, N. T., Ali, M., Smarandache, F., Abdel-Basset, M., Long, H. V. "Linguistic approaches to interval complex neutrosophic sets in decision making." *IEEE Access*, 7, 38902-38917, 2019

Thong, N. T., Giap, C. N., Tuan, T. M., Chuan, P. M., Hoang, P. M. "Modeling Multi-Criteria Decision-Making in Dynamic Neutrosophic Environments Bases on Choquet Integral." *Journal of Computer Science and Cybernetics*, 36(1), 33-47, 2020

Thong, N. T., Lan, L. T. H., Chou, S. Y., Son, L. H., Dong, D. D., Ngan, T. T. "An extended TOPSIS method with unknown weight information in dynamic neutrosophic environment." *Mathematics*, 8(3), 401, 2020.

Thong, N. T., Smarandache, F., Hoa, N. D., Son, L. H., Lan, L. T. H., Giap, C. N., Long, H. V. "A novel dynamic multi-criteria decision making method based on generalized dynamic interval-valued neutrosophic set." *Symmetry*, 12(4), 618, 2020

Lan, L. T. H., Thong, N. T., Smarandache, F., & Giang, N. L. "An ANP-TOPSIS model for tourist destination choice problems under Temporal Neutrosophic environment." *Applied Soft Computing*, 136, 110146, 2023

Nuh Okumuş

Faculty of Economics
Hasan Kalyoncu University
Gaziantep / TURKEY

Profile

MSc Degree from the Hasan Kalyoncu University in 2013. PhD Degree from the Hasan Kalyoncu University in 2023. Innovative researcher in Artificial Intelligence and Decision Making and Optimization in uncertain environment, namely in neutrosophic environment.

Research Interests

Fuzzy Sets, Soft Sets, Neutrosophic Sets, Neutrosophic Quadruple Numbers, Generalized Neutrosophic Sets, Artificial Intelligence.

List of Publications in Neutrosophics

Nuh Okumus, Uz, M.S. "Decision Making Applications for Business Based on Generalized Set-Valued Neutrosophic Quadruple Sets." *International Journal of Neutrosophic Science*, 18 (1), 82-98, 2022.

Nuh Okumus, Uluçay, V. "A Comparative Analysis for Multi-Criteria Decision-Making Methods: TOPSIS and VIKOR methods using NVTN-numbers for Application of Circular Economy." In *Neutrosophic Algebraic Structures and Their Applications*, Neutrosphic Science International Association (NSIA), Chapter XIII, 201-220, 2022

Taha Yasin Öztürk

Professor
Department of Mathematics
Faculty of Sciences and Letter
Kafkas University
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Profile

BSc (2008) and Msc degree (2010) from Mathematics Department, Kafkas University, in Kars, Turkey. PhD (2013) from Mathematics Department, Ataturk University, in Erzurum, Turkey. Published more than 30 research papers in prestigious journals.

Research Interests

Fuzzy Sets, Rough Sets, Soft Sets, Bipolar Soft Set, Neutrosophic Sets.

List of Publications in Neutrosophics

Papers

Yolcu, A., Benek, A., & Ozturk, T. Y. (2023). "A new approach to neutrosophic soft rough sets." *Knowledge and Information Systems*, 1-18.

Karataş, E., & Ozturk, T. Y. (2022). "An Application Method for the use of Neutrosophic Soft Mappings in Decision-Making the Diagnosis of Covid-19 and Other Lung Diseases." *Process Integration and Optimization for Sustainability*, 1-14.

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Ozturk, T. Y., Aras, C. G., &Bayramov, S. (2019). "A new approach to operations on neutrosophic soft sets and to neutrosophic soft topological spaces." *Communications in Mathematics and Applications*, vol. 10, no. 3, pp. 481–493, 2019.

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Yolcu, A., Ozturk, T. Y. (2022). “On Pythagorean Neutrosophıc Soft Topologıcal Spaces.” Presented At The Al-Farabı 4th Internatıonal Congress On Applıed Scıences, Erzurum.

Yolcu, A., & Ozturk, T. Y. (2022). “Some New Results On Pythagorean Neutrosophic Soft Topological Spaces.” Presented At The Ege 6th Internatıonal Conference On Applıed Scıences, İzmir.

Yolcu, A., & Ozturk, T. Y. (2022). “Neutrosophıc Soft Multı Basıs And Neutrosophıc Soft Multı Sub Base Topology.” Presented At The Euroasıa International Congress On Scientific Researches And Recent Trends-IX, Antalya.

Yolcu, A., & Ozturk, T. Y. (2022). “Boundary And Dense Sets On Neutrosophıc Soft Multı Topologıcal Spaces.” Presented At The Euroasıa International Congress On Scientific Researches and Recent Trends-IX, Antalya.

Ozturk, T. Y., Gündüz, Ç., & Bayramov, S. (2018). “A Study Of The Fundamentals Of Neutrosophic Soft Sets.” Presented At The IX International Conference Of The Georgian Mathematical Union .

Gündüz, Ç., Ozturk, T. Y., & Bayramov, S. (2018). “Neutrosophic Soft Seperation Axioms İn Neutrosophic Soft Topological Spaces.” Presented At The IX International Conference Of The Georgian Mathematical Union .

Yolcu, A., & Ozturk, T. Y. (2022). “Some Properties Of Pythagorean Neutrosophıc Soft Topologıcal Spaces.” Al-Farabı 4TH Internatıonal Congress On Applıed Scıences.

Yolcu, A., & Ozturk, T. Y. (2022). “Some Operatıons On Pythagorean Neutrosophic Soft Topologıcal Spaces.” Ege 6TH Internatıonal Conference On Applıed Scıences.

Aka. B., Yolcu, A., & Ozturk, T. Y. (2022). “Some Properties Of Neutrosophıc Soft Multı Topologıcal Spaces.” Bursa 3RD Internatıonal Scıentıfic Research Congress.

Meghna Parikh

Assistant Professor
LJ University, Ahmedabad
Gujarat / INDIA

Profile

Assistant Professor in Mathematics with more than nine years of experience. Dedicated PhD thesis and work thereafter to the development of fuzzy set theory and its extensions.

Research Interests

Differential Equation, Uncertain Environments, Inituitionistic Fuzzy Number, Neutrosophic Fuzzy Numbers.

List of Publications in Neutrosophics

Parikh, Meghna; Manoj Sahni; and Ritu Sahni. "Solution of First Order Initial Value Problem using Analytical and Numerical Method in Neutrosophic Environment." *Neutrosophic Sets and Systems* 51, 1 (2022).

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https://digitalrepository.unm.edu/nss_journal/vol38/iss1/18

Radha R.

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Profile

Assistant Professor of Mathematics at Karpagam College of Engineering, Coimbatore. Ph.D. degree from Nirmala College for Women, Coimbatore, India. M.Phil. (Mathematics) – Nirmala College for Women, Coimbatore, India. M.Sc. (Mathematics) – Nirmala College for Women, Coimbatore, India. B.Sc. (Mathematics) – PSGR Krishnammal College for Women, Coimbatore, India.

Research Interests

Fuzzy Sets, Neutrosophic Sets, Pentapartitioned Neutrosophic Pythagorean Sets, Heptapartitioned Neutrosophic Set.

List of Publications in Neutrosophics

"Quadripartitioned Neutrosophic Pythagorean Soft Set," *International Journal of Neutrosophic Science*, volume 14, Issue 1, April 2021, 9-23

Neutrosophic Pythagorean Soft Set, Neutrosophic Sets and Systems, Volume 42, April 2021, 62-78.

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"Pentapartitioned Neutrosophic Pythagorean Topological Spaces," *Journal of XI'AN University of Architecture & Technology*, volume XIII, Issue 4, March 2021, 1-7

"K-algebra on Quadripartitioned Neutrosophic Pythagorean Set," *GIS Science*, volume 8, Issue 3,1553-1573

"Pentapartitioned Neutrosophic Pythagorean Strongly Irresolvable Spaces," *Neutrosophic Sets and Systems*, volume 49,389-397

"Pentapartitioned Neutrosophic Soft Sets," *Infokara Reasearch Journal*, volume 10, Issue 2, February 2021, pages 106-116.

"Pentapartitioned Neutrosophic Pythagorean Baire Spaces," *Advances and Application in Mathematical Science*, volume 21,Issue 3,January 2022,1401-1404

"Neutrosophic Almost Resolvable and Irresolvable Spaces, Advances and Application" in *Mathematical Science*, volume 21,Issue 2, December 2021, 845-850

"Bipolar Pentapartitioned Neutrosophic Sets," *International Journal of Creative Research and Thoughts*, volume 9, Issue 5, May 2021, g304-g309.

"Heptapartitioned Neutrosophic Sets," *International Journal of Creative Research Thoughts*, volume 9, Issue 2, February 2021, 222-230

"Certain Notions of Neutrosophic Pythagorean K- Subalgebras," *International Journal of Creative Research Thoughts*, volume 9, Issue 10, a587-597

"Bipolar Quadripartitioned Neutrosophic Sets," *International Journal of Creative Research and Thoughts*, volume 10, Issue 8, August 2022, c190-c196

"Fermatean Quadripartitioned Neutrosophic Set," *International Journal of Creative Research and Thoughts*, volume 10, Issue 9, September 2022

"Pentapartitioned Neutrosophic Pythagorean Soft set," *International Research Journal of Modernization in Engineering Technology and Science* [IRJMETS], volume 3, Issue 2, February 2021. Pages 906-913

"Pentapartitioned Neutrosophic Pythagorean Set," *International Research Journal on Advanced Science Hub*, volume 3, issue 02S, February 2021, Pages 62-68

"Quadripartitioned Neutrosophic Pythagorean Set," *International Journal of Research Publication and Reviews*, volume 2, Issue 4, April 2021, 276-281

"Pentapartitioned Neutrosophic Generalized Semi Closed Sets," *Journal of Computational Mathematica*, volume 5(1), June 2021, 123-131

"Improved Correlation Coefficients of Quadripartitioned Neutrosophic Pythagorean Sets using MADM," *Journal of Computational Mathematica*, volume5(1), June 2021, 142-153

"Homomorphism on Pentapartitioned Neutrosophic Pythagorean K-algebra," *International Journal of Scientific Research in Science, Engineering and Technology*, volume 9, Issue 6,26-32

"Bipolar Pentapartitioned Neutrosophic Set and it's Generalized Semi-Closed Sets," *International Journal of Research Publication and Reviews*, volume 2, Issue 8,1130-1137

"Quadripartitioned Neutrosophic Pythagorean Lie Subalgebra," *Journal of Fuzzy Extensions and its Applications*, volume 2. Issue 3, September 2021, 283-296

"A Note on Pentapartitioned Neutrosophic Pythagorean Sets," *Neutrosophic System and its Applications*, 221-234

"Improved Correlation Coefficients in Neutrosophic Statistics for Covid Patients Using Pentapartitioned Neutrosophic Sets," *Cognitive Intelligence with Neutrosophic Statistics*.

"Effectiveness on Impact of Covid Vaccines on Correlation Coefficients of Pentapartitioned Neutrosophic Pythagorean Statistics," *Cognitive Intelligence with Neutrosophic Statistics*.

Atiqe Ur Rahman

Researcher

Department of Mathematics
University of Management and Technology
Lahore / PAKISTAN

Profile

Ph.D. from the University of Management and Technology, Lahore, Pakistan, with the thesis "Development of Embedded Frameworks of Parameterized Multi-argument Soft Set-like Models under Possibility, Complex and Convex Settings with Applications". M.Phil. degree in Mathematics from the National College of Business Administration and Economics, Lahore, Pakistan.

Published 60 research articles and 4 book chapters on hypersoft set so far. Introduced more than 30 new hybrid set structures of hypersoft set with possibility, complex, convex, concave and multi-decisive settings. Many of his new research articles are under review in peer reviewed journals. Member of Advisory Board for "Journal of Fuzzy Extension & Applications (JFEA)". Reviewer of more than 30 peer reviewed ISI journals, reviewing more than 90 research articles so far.

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List of Publications in Neutrosophics

Papers

Arshad, M., Saeed, M., Rahman, A. U., Mohammed, M. A., Abdulkareem, K. H., Alghawli, A. S., & Al-qaness, M. A.A. (2023). A robust algorithmic cum integrated approach of interval-valued fuzzy hypersoft set and OOPCS for real estate pursuit. PeerJ Computer Science, 9, e1423. https://doi.org/10.1016/10.7717/peerj-cs.1423

Rahman, A. U., Saeed, M., Mohammed, M. A., Abdulkareem, K. H., Nedoma, J., & Martinek, R. (2023). Fppsv-NHSS: Fuzzy parameterized possibility single valued neutrosophic hypersoft set to site selection for solid waste management. Applied Soft Computing, 140, 110273. https://doi.org/10.1016/j.asoc.2023.110273

Saeed, M., Sarwar, M. A., Rahman, A. U., & Maqbool, S. N. (2023). Representation of fuzzy hypersoft set in graphs. Palestine Journal of Mathematics, 12(1), 836-847. https://doi.org/10.5281/zenodo.7751699

Saeed, M., Smarandache, F., Arshad, M., & Rahman, A. U. An inclusive study on the fundamentals of interval-valued fuzzy hypersoft set. International Journal of Neutrosophic Science, 20 (2), 135-161. https://doi.org/10.54216/IJNS.200209

Rahman, A. U., Saeed, M., Saeed, M. H., Zebari, D. A., Albahar, M., Abdulkareem, K. H., Al-Waisy, A. S., Mohammed, M. A. A framework for susceptibility analysis of brain tumours based on uncertain analytical cum algorithmic modeling. Bioengineering, 10(2), 147. https://doi.org/10.3390/bioengineering10020147

Arshad, M., Rahman, A. U., & Saeed, M. (2023). An abstract approach to convex and concave sets under refined neutrosophic set environment. Neutrosophic Sets and Systems, 53, 274-296. https://doi.org/10.5281/zenodo.7536029

Ihsan, M., Saeed, M., & Rahman, A. U. (2023). An intelligent fuzzy parameterized MADM-approach to optimal selection of electronic appliances based on neutrosophic hypersoft expert set. Neutrosophic Sets and Systems, 53, 459-481. https://doi.org/10.5281/zenodo.7536071

Rahman, A. U., Saeed, M., Mohammed, M. A., Al-Waisy, A. S., Kadry, S., & Kim, J. (2023). An innovative fuzzy parameterized MADM approach to site selection for dam construction based on sv-complex neutrosophic hypersoft set. AIMS Mathematics, 8(2), 4907-4929. https://doi.org/10.3934/math.2023245

Ihsan, M., Saeed, M., Rahman, A. U., Kamacı, H., & Ali, N. (2023). An MADM-based fuzzy parameterized framework for solar panels evaluation in a fuzzy hypersoft expert set environment. AIMS Mathematics, 8(2), 3403-3427. https://doi.org/10.3934/math.2023175

Arshad, M., Saeed, M., Rahman, A. U., Zebari, D. A., Mohammed, M. A., Al-Waisy, A. S., Albahar, M., & Thanoon, M. (2022). The Assessment of Medication Effects in Omicron Patients through MADM Approach Based on Distance Measures of Interval-Valued Fuzzy Hypersoft Set. Bioengineering, 9(11), 706. https://doi.org/10.3390/bioengineering9110706

Rahman, A. U., Saeed, M., & Garg, H. (2022). An innovative decisive framework for optimized agri-automobile evaluation and HRM pattern recognition via possibility fuzzy hypersoft setting. Advances in Mechanical Engineering, 14(10), 16878132221132146. https://doi.org/10.1177/16878132221132146

Rahman, A. U., Saeed, M., & Khalifa, H. A. W. (2022). Decision making application based on parameterization of fuzzy hypersoft set with fuzzy setting. Italian Journal of Pure and Applied Mathematics 48, 1033–1048.

https://doi.org/10.5281/zenodo.7477708

Saeed, M., Ahsan, M., Saeed, M. H., Rahman, A. U., Mohammed, M. A., Nedoma, J., & Martinek, R. (2023). An algebraic modeling for tuberculosis disease prognosis and proposed potential treatment methods using fuzzy hypersoft mappings. Biomedical Signal Processing and Control, 80, 104267.

https://doi.org/10.1016/j.bspc.2022.104267

Saeed, M., Rahman, A. U., Ahsan, M., & Smarandache, F. (2022). Theory of hypersoft sets: axiomatic properties, aggregation operations, relations, functions and matrices. Neutrosophic Sets and Systems, 51, 744-765. https://doi.org/10.5281/zenodo.7135413

Khalifa, H. A. E. W., Saeed, M., Rahman, A. U., & El-Morsy, S. (2022). An Application of Pentagonal Neutrosophic Linear Programming for Stock Portfolio Optimization. Neutrosophic Sets and Systems, 51, 653-665. https://doi.org/10.5281/zenodo.7135397

Rahman, A. U., Saeed, M., Bonyah, E., & Arshad, M. (2022). Graphical Exploration of Generalized Picture Fuzzy Hypersoft Information with Application in Human Resource Management Multiattribute Decision-Making. Mathematical Problems in Engineering, 2022. https://doi.org/10.1155/2022/6435368

Ihsan, M., Saeed, M., Rahman, A. U., Khalifa, H. A. E. W., & El-Morsy, S. (2022). An intelligent fuzzy parameterized multi-criteria decision-support system based on intuitionistic fuzzy hypersoft expert set for automobile evaluation. Advances in Mechanical Engineering, 14(7), 16878132221110005. https://doi.org/10.1177/16878132221110005

Saeed, M., Ahsan, M., Saeed, M. H., Rahman, A. U., Mehmood, A., Mohammed, M. A., Jaber, M. M., & Damaševičius, R. (2022). An optimized decision support model for COVID-19 diagnostics based on complex fuzzy hypersoft mapping. Mathematics, 10(14), 2472. https://doi.org/10.3390/math10142472

Rahman, A. U., Saeed, M., Mohammed, M. A., Majumdar, A., & Thinnukool, O. (2022). Supplier selection through multicriteria decision-making algorithmic approach based on rough approximation of Fuzzy hypersoft sets for construction project. Buildings, 12(7), 940. https://doi.org/10.3390/buildings12070940

Rahman, A. U., Saeed, M., & Abd El-Wahed Khalifa, H. (2022). Multi-attribute decision-making based on aggregations and similarity measures of neutrosophic hypersoft sets with possibility setting. Journal of Experimental & Theoretical Artificial Intelligence, 1-26. https://doi.org/10.1080/0952813X.2022.2080869

Arshad, M., Saeed, M., & Rahman, A. U. (2022). A novel intelligent multi-attributes decision-making approach based on generalized neutrosophic vague hybrid computing. Neutrosophic Sets and Systems, 50, 532-551. https://doi.org/10.5281/zenodo.6774920

Ihsan, M., Saeed, M., & Rahman, A. U. (2022). Neutrosophic hypersoft expert set: Theory and Applications. Neutrosophic Sets and Systems, 50, 431-458. https://doi.org/10.5281/zenodo.6774883

Zhang, H., Zhang, Y., Rahman, A. U., & Saeed, M. (2022). An intelligent sv-neutrosophic parameterized MCDM approach to risk evaluation based on complex fuzzy hypersoft set for real estate investments. Management Decision, (ahead-of-print). https://doi.org/10.1108/MD-05-2022-0605

Rahman, A. U., Saeed, M., Mohammed, M. A., Jaber, M. M., & Garcia-Zapirain, B. (2022). A novel fuzzy parameterized fuzzy hypersoft set and riesz summability approach based decision support system for diagnosis of heart diseases. Diagnostics, 12(7), 1546. https://doi.org/10.3390/diagnostics12071546

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Ihsan, M., Saeed, M., Rahman, A. U., & Smarandache, F. (2022). An Inclusive Study on Fundamentals of Hypersoft Expert Set with Application. Punjab University Journal of Mathematics, 54(5), 315-332. https://doi.org/10.52280/pujm.2022.540503

Rahman, A. U., Saeed, M., Mohammed, M. A., Krishnamoorthy, S., Kadry, S., & Eid, F. (2022). An Integrated Algorithmic MADM Approach for Heart Diseases' Diagnosis Based on Neutrosophic Hypersoft Set with Possibility Degree-Based Setting. Life, 12(5), 729. https://doi.org/10.3390/life12050729

Rahman, A. U., Saeed, M., Khan, K. A., Nosheen, A., & Mabela, R. M. (2022). An Algebraic Approach to Modular Inequalities Based on Interval-Valued Fuzzy Hypersoft Sets via Hypersoft Set-Inclusions. Journal of Function Spaces, 2022. https://doi.org/10.1155/2022/1384541

Khalifa, H. A. A. E. W., Alodhaibi, S. S., Saeed, M., & Rahman, A. U. (2022). A Study on cooperative continuous static games without differentiability under fuzzy environment. International Journal of Fuzzy System Applications (IJFSA), 11(1), 1-20. https://doi.org/10.4018/IJFSA.292462

Rahman, A. U., Saeed, M., Alburaikan, A., & Khalifa, H. A. E. W. (2022). An intelligent multiattribute decision-support framework based on parameterization of

neutrosophic hypersoft set. Computational Intelligence and Neuroscience, 2022. https://doi.org/10.1155/2022/6229947

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Rahman, A. U., Saeed, M., & Smarandache, F. (2022). A theoretical and analytical approach to the conceptual framework of convexity cum concavity on fuzzy hypersoft sets with some generalized properties. Soft Computing, 26(9), 4123-4139. https://doi.org/10.1007/s00500-022-06857-8

Saeed, M., Rahman, A. U., & Harl, M. I. (2022). An Abstract Approach to W-Structures Based on Hypersoft Set with Properties. Neutrosophic Sets and Systems, 48, 433-442. https://doi.org/10.5281/zenodo.6041593

Ihsan, M., Saeed, M., Rahman, A. U., & Smarandache, F. (2022). Multi-Attribute Decision Support Model Based on Bijective Hypersoft Expert Set. Punjab University Journal of Mathematics, 54(1), 55-73. https://doi.org/10.52280/pujm.2021.540105

Saeed, M., Ahmad, M. R., & Rahman, A. U. (2022). Refined pythagorean fuzzy sets: properties, set-theoretic operations and axiomatic results. Journal of Computational and Cognitive Engineering, in press.

https://doi.org/10.47852/bonviewJCCE2023512225

Rahman, A. U., Saeed, M., Arshad, M., & El-Morsy, S. (2021). Multi-Attribute Decision-Support System Based on Aggregations of Interval-Valued Complex Neutrosophic Hypersoft Set. Applied Computational Intelligence and Soft Computing, 2021. https://doi.org/10.1155/2021/4368770

Ihsan, M., Rahman, A. U., & Saeed, M. (2021). Single valued neutrosophic hypersoft expert set with application in decision making. Neutrosophic Sets and Systems, 47, 451-471. https://doi.org/10.1007/10.5281/zenodo.5775166

Saeed, M., & Rahman, A. U. (2021). Optimal supplier selection via decision-making algorithmic technique based on single-valued neutrosophic fuzzy hypersoft set. Neutrosophic Sets and Systems, 47, 472-490.

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Rahman, A. U., Saeed, M., Khalifa, H. A. E. W., & Afifi, W. A. (2022). Decision making algorithmic techniques based on aggregation operations and similarity measures of possibility intuitionistic fuzzy hypersoft sets. AIMS Math, 7(3), 3866-3895. https://doi.org/10.3934/math.2022214

Saeed, M., Rahman, A. U., Arshad, M., & Dhital, A. (2021). A novel approach to neutrosophic hypersoft graphs with properties. Neutrosophic Sets and Systems, 46, 336-355. https://doi.org/10.5281/zenodo.5553538

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Ihsan, M., Saeed, M., & Rahman, A. U. (2021). A Rudimentary Approach to Develop Context for Convexity cum Concavity on Soft Expert Set with Some Generalized Results. Punjab University Journal of Mathematics, 53(9), 621-629. https://doi.org/10.52280/pujm.2021.530902

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M.Sc. and Ph.D. in Mathematics from Gauhati University, Assam, India. Lecturer in the Department of Mathematics, Kokrajhar Government College from 2008 to 2010. Assistant Professor in the Department of Mathematics of CIT Kokrajhar since 2011.

Research Interests

Neutrosophic Sets and Logics, Fuzzy Mathematics, Fuzzy Topology, Number Theory, Graph Theory, Neutrosophic Topological Spaces.

List of Publications in Neutrosophics

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Research Interests

Algebra, Real-Analysis, Topology, Neutrosophics.

List of Publications in Neutrosophics

Remya P.B, Francina Shalini. "A Neutrosophic Vague Binary Sets." *Neutrosophic Sets and Systems*, 29, 227–241, 2019.

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Profile

Graduated from Semnan University with a Ph.D. in the field of graphs and combinatorics and Shahrood University of Technology with a Bachelor's degree in applied mathematics and a Master's degree in graphs and combinators.

Research Interests

Graph Theory, Fuzzy Set, Neutrosophic Set, Artificial Intelligence, Chemical Graph.

List of Publications in Neutrosophics

Ghods, M. and Rostami, Z., Jalali, S. T., "Some Topological Indices in Neutrosophic Graphs" (2019) 935-940 (4^{th} International Conference on Combinatorics, Cryptography, Computer Science and Computing- November 20-21, 2019- Iran University of Science & Technology)

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List of Publications in Neutrosophics

S. Pramanik, R. Roy, T. K. Roy, Multi criteria Decision Making Based on Projection and Bidirectional Projection Measures of Rough Neutrosophic Sets, In F. Smarandache, M. A. Basset, & V. Chang (Eds), *Neutrosophic Operational Research* II, (pp.29-53), 2018, Brussels: Pons asbl.

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Rahman, A. U., Saeed, M., & Hafeez, A. (2021). Theory of Bijective Hypersoft Set with Application in Decision Making. Punjab University Journal of Mathematics, 53(7), 511-526. https://doi.org/10.52280/pujm.2021.530705

Rahman, A. U., Saeed, M., Alodhaibi, S. S., & Khalifa, H. A. E. W. (2021). Decision making algorithmic approaches based on parameterization of neutrosophic set under hypersoft set environment with fuzzy, intuitionistic fuzzy and neutrosophic settings. CMES-Computer Modeling in Engineering & Sciences, 128(2), 743-777. http://doi.org/10.32604/cmes.2021.016736

Saeed, M., Ahsan, M., Rahman, A. U., Saeed, M. H., & Mehmood, A. (2021). An application of neutrosophic hypersoft mapping to diagnose brain tumor and propose appropriate treatment. Journal of Intelligent & Fuzzy Systems, 41(1), 1677-1699. http://doi.org/10.3233/JIFS-210482

Rahman, A. U., Saeed, M., & Zahid, S. (2021). Application in Decision Making Based on Fuzzy Parameterized Hypersoft Set Theory. Asia Mathematika 5 (1), 19-27. http://doi.org/10.5281/zenodo.4721481

Ihsan, M., Rahman, A. U., & Saeed, M. (2021). Hypersoft Expert Set With Application in Decision Making for Recruitment Process. Neutrosophic Sets and Systems, 42, 191-208. http://doi.org/10.5281/zenodo.4711524

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Rahman, A. U., Saeed, M., Ihsan, M., Arshad, M., & Ayaz, S. (2021). A conceptual framework of m-convex and m-concave sets under soft set environment with properties. Transactions in Mathematical and Computational Sciences, 1(1), 49-60. https://doi.org/10.5281/zenodo.4743406

Rahman, A. U., Saeed, M., Arshad, M., Ihsan, M., & Ahmad, M. R. (2021). (m; n)-Convexity-cum-Concavity on Fuzzy Soft Set with Applications in First and Second Sense. Punjab University Journal of Mathematics, 53(1), 19-33. https://doi.org/10.52280/pujm.2021.530102

Ihsan, M., Rahman, A. U., & Saeed, M. (2021). Fuzzy hypersoft expert set with application in decision making for the best selection of product. Neutrosophic Sets and Systems, 46, 318-335. https://doi.org/10.5281/zenodo.5553534

Rahman, A. U., Ahmad, M. R., Saeed, M., Ahsan, M., Arshad, M., & Ihsan, M. (2020). A study on fundamentals of refined intuitionistic fuzzy set with some properties. Journal of fuzzy extension and applications, 1(4), 279-292. http://doi.org/10.22105/jfea.2020.261946.1067

Rahman, A. U., Saeed, M., & Smarandache, F. (2020). Convex and Concave Hypersoft Sets with Some Properties. Neutrosophic Sets and Systems, 38, 497-509. http://doi.org/10.5281/zenodo.4300580

Rahman, A. U., Saeed, M., Smarandache, F., & Ahmad, M. R. (2020). Development of Hybrids of Hypersoft Set with Complex Fuzzy Set, Complex Intuitionistic Fuzzy set and Complex Neutrosophic Set. Neutrosophic Sets and Systems, 38, 335-355. http://doi.org/10.5281/zenodo.4743367

Book Chapters

Saeed, M., Rahman, A. U., Ahsan, M., & Smarandache, F. (2021). An inclusive study on fundamentals of hypersoft set. In *Theory and Application of Hypersoft Set*, Pons Publication House, Brussels, Belgium, 1-23. https://doi.org/10.5281/zenodo.7361633

Saeed, M., Ahsan, M., & Rahman, A. U. (2021). A novel approach to mappings on hypersoft classes with application. In *Theory and Application of Hypersoft Set*, Pons Publication House, Brussels, Belgium, 175-191. http://doi.org/10.5281/zenodo.4743384

Rahman, A. U., Hafeez, A., Saeed, M., Ahmad, M. R., & Farwa, U. (2021). Development of rough hypersoft set with application in decision making for the best choice of chemical material. In *Theory and Application of Hypersoft Set*, Pons Publication House, Brussels, Belgium, 192-202. http://doi.org/10.5281/zenodo.4743367

Saeed, M., Siddique, M. K., Ahsan, M., Ahmad, M. R., & Rahman, A. U. (2021). A novel approach to the rudiments of hypersoft graphs. In *Theory and Application of Hypersoft Set*, Pons Publication House, Brussels, Belgium, 203-214. http://doi.org/10.5281/zenodo.4736620

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Faculty of Law
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Research Interests

Fuzzy Sets, Soft Sets, Neutrosophic Sets, Neutrosophic Quadruple Numbers, Interval Valued Neutrosophic Soft Sets, Generalized Neutrosophic Sets, Artificial Intelligence.

List of Publications in Neutrosophics

Kargın, A., Dayan, A., & Şahin, N. M. (2021). Generalized Hamming Similarity Measure Based on Neutrosophic Quadruple Numbers and Its Applications to Law Sciences. *Neutrosophic Set and Systems*, *40*, 45-67.

Şahin, N. M., & Dayan, A. (2021). Multicriteria Decision-Making Applications Based on Generalized Hamming Measure for Law. *International Journal of Neutrosophic Science (IJNS)*, *17*(1).

Şahin, N. M., & Uz, M. S. (2021). Multi-criteria decision-making applications based on set valued generalized neutrosophic quadruple sets for law.

Manoj Sahni

Associate Professor, PhD
Pandit Deendayal Energy University
Department of Mathematics
Gandhinagar, Gujarat / INDIA

Profile

Mathematics teacher and researcher with more than 18 years of experience. Currently serving as an Associate Professor and Former Head in the Department of Mathematics, School of Technology, Pandit Deendayal Energy University, Gandhinagar, Gujarat, India. M.Sc. (Mathematics with specialization in Computer Applications), from Dayalbagh Educational Institute (Deemed University), Agra, M. Phil. from I.I.T. Roorkee, and a Ph.D. degree in Mathematics from Jaypee Institute of Information Technology (Deemed University), Noida, India.

Published more than 85 research papers in peer-reviewed Journals (SCI/ SCIE/ ESCI/ Scopus), Conference Proceedings (Scopus Indexed), and Book Chapters (Scopus Indexed) with publishers like Springer, Elsevier, etc. Advisory board member, Technical committee member and Reviewer for many international journals and conferences. Organized three International Conferences on Mathematical Modeling, Computational Intelligence Techniques, and Renewable Energy (MMCITRE) in 2020, 2021 and 2022. Authored, co-authored or edited eight books, published by publishers like Springer, Taylor and Francis, NOVA, River, etc. Participated in the scientific committee of several International Conferences and associations and also delivered many expert talks at the National and International levels. Member of many international professional societies, including the American Mathematical Society (AMS), Society for Industrial and Applied Mathematics (SIAM), IEEE, Mathematical Association of America (MAA), Forum for Interdisciplinary Mathematics (FIM), Indian Mathematical Society (IMS).

List of Publications in Neutrosophics

M. Parikh, M. Sahni, R. Sahni, Solution of First Order Initial Value Problem using Analytical and Numerical Method in Neutrosophic Environment, *Neutrosophic Sets and Systems*, vol. 51, 2022.

M. Parikh, M. Sahni, Sumudu transform for solving second order ordinary differential equation under Neutrosophic Initial Conditions, *Neutrosophic Sets and Systems*, vol. 38, pp. 258-275, 2020.

N.K. Patel, R. Sahni, M. Sahni, Floyd's Algorithm for All-Pairs Interval-Valued Neutrosophic Shortest Path Problems, Proceedings of the First International Conference on Mathematical Modelling, Computational Intelligence Techniques and Renewable Energy (MMCITRE2020), *Advances in Intelligent Systems and Computing*, vol. 1287, pp. 463-473, 2021.

R. Sahni, M. Sahni, N.K. Patel, Chi-Square Similarity Measure for Interval Valued Neutrosophic Set, Proceedings of the First International Conference on Mathematical Modelling, Computational Intelligence Techniques and Renewable Energy (MMCITRE2020), *Advances in Intelligent Systems and Computing*, vol. 1287, pp. 545-548, 2021.

Rajesh Kumar Saini

Professor
Department of Mathematical Sciences and Computer Applications
Dean & Director, IET (F)
Bundelkhand University
Jhansi / INDIA

Profile

Dean Science, Chief Proctor, Security Officer at the Bundelkhand University, Professor at the Department of Mathematical Science and Computer Applications since 2013. Ph.D. in 1993 from University of Roorkee, IIT Roorkee, India, D.Sc., CCS University, Meerut (UP), India.

Publications

- Number of Research Papers - 102
- Journals of International/National Repute - 71
- Number of conference (National/International) – 31
- Number of Research Grants - 04
- Number of conference/symposium organized – 03 (02 National, 01 International)
- Number of Books Authored – 04, Books Edited- 03, Books Chapters- 11
- Highest Citation – 45, Highest Impact Factor 3.381

Research Interests

Neutrosophic Optimization, Fixed Point Theory, Fuzzy Set Theory, Application of Neutrosophic Multi Objective Multi Criteria Decision Making Problems, Fuzzy Optimization.

List of Publications in Neutrosophics

Rajesh Kumar Saini, Atul Sangal and Manisha. "Application of Single Valued Trapezoidal Neutrosophic Numbers in Transportation Problem." *Neutrosophic Sets and Systems*, Vol. 35, (2020), 563-583.

Rajesh Kumar Saini, Atul Sangal and Ashik Ahirwar. "A Novel Approach by using Interval-Valued Trapezoidal Neutrosophic Numbers in Transportation Problem." *Neutrosophic Sets and Systems*, (Scopus, ESCI, web science), vol 51, (2022), 234-252.

Chhavi Jain, R K Saini, Atul Sangal and Ashik Ahirwar. "Interval-Valued Bipolar Trapezoidal Neutrosophic Number Approach in Distribution Planning Problem." *International Journal of Intelligent Systems and Applications in Engineering* (IJISAE), (2022), 10(3), 390–402.

Upcoming Publications

"Solar Power Plant Location Selection Problem by using ELECTRE-III Method in Pythagorean Neutrosophic Programming Approach (A case study on Green Energy in India)" by R K Saini and Ashik Ahirwar

"Linguistic Approaches in Agro Foods with Interval Complex Neutrosophic Sets in Decision Making" by R K Saini, Moh. Kasim and Ashik Ahirwar

"Bipolar Trapezoidal Interval Valued Neutrosophic Numbers for Transportation Problems in Decision Science" by Chhavi Jain, R K Saini, Atul Sangal

Muhammad Saqlain

Lecturer

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Profile

Research student at King Mongkut's University of Technology Thonburi (KMUTT), Thailand and Northwest University, China. Master of Philosophy (M.Phil.) Degree in Mathematics from Lahore Garrison University, Lahore, Pakistan. Master in Mathematics (Major Subjects: Fluid Mechanics, Special Relativity) from the University of Sargodha. Bachelor of Science (Major Subjects: Pure Mathematics and Applied Mathematics) from the Physics University of Sargodha. Former Lecturer with the Department of Mathematics, Lahore Garrison University, Lahore, Pakistan.

Published more than 50 research articles in different journals, including SCI, SCIE, and ESCI. Editor of the Book "Theory and Application of Hypersoft Set" and reviewer of many journals.

Research Interests

Artificial Intelligence, Decision-Making, Optimization, Hypersoft Set Theory, Neutrosophic Soft Set, Neutrosophic Hypersoft Set.

List of Publications in Neutrosophics

Papers

M. Saqlain, M. Riaz, M. A. Saleem and M. -S. Yang, (2021). Distance and Similarity Measures for Neutrosophic Hypersoft Set (NHSS) with Construction of NHSS-TOPSIS and Applications, *IEEE Access*, 9, 30803-30816. doi: 10.1109/ACCESS.2021.3059712

Saqlain M, Xin L X., (2020), Interval Valued, m-Polar and m-Polar Interval Valued Neutrosophic Hypersoft Sets, *Neutrosophic Sets and Systems* (NSS), 36: 389-399.

Amalini. L. N. Kamal. M., Abdullah. L. and Saqlain. M. (2020) Multi-Valued Interval Neutrosophic Linguistic Soft Set Theory and Its Application in Knowledge Management, *CAAI Transactions on Intelligence Technology, 1-13*.

Saqlain M., Moin S., Jafar N M., M. Saeed, and F. Smarandache, (2020). Aggregate Operators of Neutrosophic Hypersoft Set, *Neutrosophic Sets and Systems*, vol. 32, pp. 294–306, 2020.

Saqlain M, Sana M, Jafar N, Saeed. M, Said. B, (2020). Single and Multi-valued Neutrosophic Hypersoft set and Tangent Similarity Measure of Single valued Neutrosophic Hypersoft Sets, *Neutrosophic Sets and Systems (NSS),* 32: 317-329.

Jafar M. N., M. Saeed, M. Saqlain and M. -S. Yang, "Trigonometric Similarity Measures for Neutrosophic Hypersoft Sets with Application to Renewable Energy Source Selection," in *IEEE Access*, vol. 9, pp. 129178-129187, 2021, doi: 10.1109/ACCESS.2021.3112721.

Muhammad Saeed, Muhammad Saqlain and Asad Mehmood. (2020). Application of Similarity Measure on m-polar Interval-valued Neutrosophic Set in Decision Making in Sports, *Neutrosophic Sets and Systems*, vol. 38, 2020, pp. 317-334. DOI: 10.5281/zenodo.4300518

Zulqarnain M R, Saqlain M, Xin L X, Smarandache F, (2020), Generalized aggregate operators on Neutrosophic Hypersoft set, Neutrosophic Sets and Systems (NSS), 36: 271-281.

Saqlain M, Saeed M, Ahmad M. R, Smarandache F, (2019), Generalization of TOPSIS for Neutrosophic Hypersoft set using Accuracy Function and its Application, *Neutrosophic Sets and Systems (NSS)*, 27: 131-137.

Saqlain. M and Florentin S. Octagonal Neutrosophic Number: Its Different Representations, Properties, Graphs and De-Neutrosophication," *International Journal of Neutrosophic Science*, vol. 8, no. 1, pp. 19–33, 2020.

Saqlain, M., Jafar, M. N., Riaz, M. "A New Approach of Neutrosophic Soft Set with Generalized Fuzzy TOPSIS in Application of Smart Phone Selection," *Neutrosophic Sets and Systems*, vol. 32, pp. 307-316, 2020. DOI: 10.5281/zenodo.3723161

Rana Muhammad Zulqarnain, Xiao Long Xin, Muhammad Saqlain, Florentin Smarandache, Muhammad Irfan Ahamad, (2021). An integrated model of Neutrosophic TOPSIS with application in Multi-Criteria Decision-Making Problem, *Neutrosophic Sets and Systems*, vol. 40, pp. 253-269.

Rana Muhammad Zulqarnain, Xiao Long Xin, Muhammad Saqlain, Muhammad Saeed, Florentin Smarandache, Muhammad Irfan Ahamad, (2021). Some Fundamental Operations on Interval Valued Neutrosophic Hypersoft Set with Their Properties, Neutrosophic Sets and Systems, vol. 40, pp. 134-148.

Farooq U. M, Saqlain M, Zaka-ur-Rehman, the selection of LASER as Surgical Instrument in Medical using Neutrosophic Soft Set with Generalized Fuzzy TOPSIS, WSM and WPM along with MATLAB Coding, Neutrosophic Sets and Systems (NSS), 40 (2021). 29-44.

Adeel A, Saqlain M., Sana M, (2021). Development of TOPSIS using Similarity Measures and Generalized weighted distances for Interval Valued Neutrosophic Hypersoft Matrices along with Application in MAGDM Problems, In F. Smarandache, M. Saeed, M. Abdel-Baset and M. Saqlain (Eds) Theory and Application of Hypersoft Set (pp. 107-137). Belgium, Brussels: Pons Publishing House.

Irfan, M., Rani, M., Saqlain, M., Saeed, M., (2021). Tangent, Cosine, and Ye Similarity Measures of m-Polar Neutrosophic Hypersoft Sets, In F. Smarandache, M. Saeed, M. Abdel-Baset and M. Saqlain (Eds) Theory and Application of Hypersoft Set (pp. 155-174). Belgium, Brussels: Pons Publishing House. ISBN 978-1-59973-699-0.

Book Chapters

Saqlain M, Saeed. M, Zulqarnain M R, Sana M, (2021) Neutrosophic Hyper soft Matrix Theory: Its Definition, Operators and Application in Decision-Making of Personnel Selection Problem, Neutrosophic Operational Research, Springer, 10.1007/978-3-030-57197-9

Saqlain M, Application of Generalized Aggregate Operators on Neutrosophic Hyper Soft Set in Decision-Making, Neutrosophic Operational Research, Springer, 10.1007/978-3-030-57197-9

Saqlain M, Aggregate, Arithmetic and Geometric Operators of Octagonal Neutrosophic Numbers and Its Application in Multi-Criteria Decision-Making Problems, Neutrosophic Operational Research, Springer, 10.1007/978-3-030-57197-9

Saqlain M, Fuzzy Logic Controller for Aviation Parking with 5G of Communication Technology, Publisher: Springer International Publishing. Intelligent and Fuzzy Techniques in Aviation 4.0 Theory and Applications, Springer International Publishing, DOI: 10.1007/978-3-030-75067-1 ISBN 978-3-030-75066-4

Muzafer Saračević

Professor
Department of Computer Sciences
University of Novi Pazar
Novi Pazar / SERBIA

Profile

Graduated in Computer Sciences (cryptography) at the Faculty of Informatics and Computing in Belgrade. Master degree from the University of Kragujevac, Faculty of Technical Sciences. Ph.D. in Computational Geometry at the University of Nis, Faculty of Science and Mathematics (Serbia) in 2013. Full Professor, Vice-Rector for Scientific Research in the Department of Computer Sciences of the University of Novi Pazar (Serbia).

Authored and co-authored several university textbooks and over 200 scientific papers printed in international and national journals and proceedings of international and national scientific conferences. Published scientific papers and chapters in journals and monographs of world scientific publishers (Elsevier, Springer, Taylor and Francis, IEEE, Wiley, IET, Nature, Hindawi, TechScience Press, MDPI, De Gruyter, World Scientific, IGI Global, IOP Science). Authored/co-authored articles in high-ranked and prestigious journals such as *Future Generation Computer Systems* (Elsevier), *IEEE Transactions on Reliability* (IEEE), *Multimedia Tools and Applications* (Springer), *Scientific Reports* (NATURE), *IET Intelligent Transport Systems, International Journal of Computer Mathematics* (Taylor & Francis). Member of the editorial board for 15 journals. Reviews for more than 50 international journals and many conferences.

Research Interests

Software Engineering and Programming, Applied Mathematics, Cryptography, Data Protection, Biometrics, Expert Systems, Intelligent Systems.

List of Publications in Neutrosophics

Stanujkic, D.; Karabasevic, D.; Popovic, G.; Stanimirovic, P.S.; Saračević, M.; Smarandache, F.; Katsikis, V.N.; Ulutas, A. "A New Grey Approach for Using SWARA and PIPRECIA Methods in a Group Decision-Making Environment." *Mathematics* 9, 1554, 2021.

Stanujkić, D.; Karabašević, D.; Popović, G.; Stanimirović, P.S.; Smarandache, F.; Saračević, M.; Ulutaş, A.; Katsikis, V.N. "An Innovative Grey Approach for Group Multi-Criteria Decision Analysis Based on the Median of Ratings by Using Python." *Axioms* 10(2), 124, 2021.

Stanujkić, D.; Karabašević, D.; Popović, G.; Kazimieras Zavadskas E.; Saračević, M.; Stanimirović, P.S.; Ulutaş, A.; Katsikis, V.N.; Meidute-Kavaliauskiene L. "Comparative Analysis of the Simple WISP and Some Prominent MCDM Methods: A Python Approach." *Axioms* 10(4), 347, 2021.

Karabašević, D.; Ulutaş, A.; Stanujkić, D.; Saračević, M.; Popović, G. “A New Fuzzy Extension of the Simple WISP Method.” *Axioms* 11(7), 332, 2022.

Stanujkic D.; Karabasevic D.; Popovic G.; Smarandache F.; Stanimirović P.; Saračević M.; Katsikis V. “A Single Valued Neutrosophic Extension of the Simple WISP Method.” *Informatica* 33(3), 635–651, 2022.

D. Savithiri

Research Scholar
L.R.G.Govt. Arts College for Women
Tirupur, Tamilnadu / INDIA

Profile

Post graduate degree (Mathematics) in 2005 and M.Phil in 2007 from L.R.G.Govt Arts College for Women, Tirupur,TN, India. Pursuing Ph.D at the same institution. Guest Lecturer for four years in L.R.G. Govt Arts College (W). Assistant Professor for more than eight years in Sree Narayana Guru College, Coimbatore, Tamilnadu, India. Published twelve papers in International Journals and presented five papers in International and National Conferences.

Research Interests

Neutrosophic Bipolar Vague Sets and Graphs, Neutrosophic Soft Sets, Neutrosophic Baire Spaces.

List of Publications in Neutrosophics

D. Savithiri, C. Janaki. "Neutrosophic RW closed sets in Neutrosophic topological Spaces." *Research and Analytical Reviews*, Vol 6(2), 242-249, 2019

D. Savithiri, C. Janaki. "Neutrosophic RW continuity, Neutrosophic Rw open maps and closed maps." *Bulletin of Mathematics and Statistical Research*, Vol 8(2), 32-41, 2019

D. Savithiri, C. Janaki. "Neutrosophic Bipolar Vague Regualr Weakly closed sets in Neutrosophic Bipolar vague Topological Spaces." *Journal of Xi'an University of Archiecture and Technology*, Vol XII(VII), 360-368, 2020

Abdulkadir Şengür

Professor
Department of Electrical and Electronics Engineering
Faculty of Technology
Firat University
Elazig / TURKEY

Profile

PhD degree in Electrical and Electronics Engineering from Firat University, Elazig, Turkey. Currently, Professor in the Department of Electrical and Electronics Engineering at Firat University. Published more than 100 journal papers, 25 conference papers and 3 book chapters.

Research Interests

Image Processing, Image Denoising, Image Segmentation, Thresholding, Edge Detection, Data Clustering.

List of Publications in Neutrosophics

Papers

Guo, Y., Şengür, A., Akbulut, Y., & Shipley, A. (2018). An effective color image segmentation approach using neutrosophic adaptive mean shift clustering. Measurement, 119, 28-40.

Budak, Ü., Guo, Y., Şengür, A., & Smarandache, F. (2017). Neutrosophic Hough Transform. Axioms, 6(4), 35.

Guo, Y., Jiang, S. Q., Sun, B., Siuly, S., Şengür, A., & Tian, J. W. (2017). Using neutrosophic graph cut segmentation algorithm for qualified rendering image selection in thyroid elastography video. Health information science and systems, 5(1), 8.

Guo, Y., Xia, R., Şengür, A., & Polat, K. (2017). A novel image segmentation approach based on neutrosophic c-means clustering and indeterminacy filtering. Neural Computing and Applications, 28(10), 3009-3019.

Guo, Y., Akbulut, Y., Şengür, A., Xia, R., & Smarandache, F. (2017). An efficient image segmentation algorithm using neutrosophic graph cut. Symmetry, 9(9), 185.

Akbulut, Y., Sengur, A., Guo, Y., & Smarandache, F. (2017). Ns-k-nn: Neutrosophic set-based k-nearest neighbors classifier. Symmetry, 9(9), 179.

Akbulut, Y., Şengür, A., Guo, Y., & Smarandache, F. (2017). A novel neutrosophic weighted extreme learning machine for imbalanced data set. Symmetry, 9(8), 142.

Akbulut, Y., Şengür, A., Guo, Y., & Polat, K. (2017). KNCM: Kernel neutrosophic c-means clustering. Applied Soft Computing, 52, 714-724.

Guo, Y., Şengür, A., & Tian, J. W. (2016). A novel breast ultrasound image segmentation algorithm based on neutrosophic similarity score and level set. Computer methods and programs in biomedicine, 123, 43-53.

Guo, Y., & Sengur, A. (2015). A novel 3D skeleton algorithm based on neutrosophic cost function. Applied Soft Computing, 36, 210-217.

Guo, Y., & Sengur, A. (2015). NCM: Neutrosophic c-means clustering algorithm. Pattern Recognition, 48(8), 2710-2724.

Guo, Y., & Sengur, A. (2015). NECM: Neutrosophic evidential c-means clustering algorithm. Neural Computing and Applications, 26(3), 561-571.

Guo, Y., & Şengür, A. (2014). A novel image segmentation algorithm based on neutrosophic similarity clustering. Applied Soft Computing, 25, 391-398.

Guo, Y., Şengür, A., & Ye, J. (2014). A novel image thresholding algorithm based on neutrosophic similarity score. Measurement, 58, 175-186.

Guo, Y., & Şengür, A. (2014). A novel image edge detection algorithm based on neutrosophic set. Computers & Electrical Engineering, 40(8), 3-25.

Guo, Y., & Sengur, A. (2013). A novel color image segmentation approach based on neutrosophic set and modified fuzzy c-means. Circuits, Systems, and Signal Processing, 32(4), 1699-1723.

Guo, Y., & Şengür, A. (2013). A novel image segmentation algorithm based on neutrosophic filtering and level set. Neutrosophic Sets and Systems, 1(49), 46-49.

Karabatak, E., Sengur, A., & Guo, Y. (2013). Modified neutrosophic approach to color image segmentation. Journal of Electronic Imaging, 22(1), 013005.

Sengur, A., & Guo, Y. (2011). Color texture image segmentation based on neutrosophic set and wavelet transformation. Computer Vision and Image Understanding, 115(8), 1134-1144.

Chapters in Books

Şengür, A., Budak, U., Akbulut, Y., Karabatak, M., Tanyildizi, E., A Survey on Neutrosophic Medical Image Segmentation, Neutrosophic Set in Medical Image Analysis, Editors: Yanhui Guo, Amira Ashour, ISBN: 9780128181485, 2019.

Şengür, A., Bajaj, V., Karabatak, M., Tanyildizi, E., Neutrosophic Similarity Score Based Entropy Measure for Focal and Non-Focal Electroencephalogram Signal Classification, Neutrosophic Set in Medical Image Analysis, Editors: Yanhui Guo, Amira Ashour, ISBN: 9780128181485, 2019.

M. Shanmugapriya

Assistant Professor
Department of Mathematics
Sri Sivasubramaniya Nadar College of Engineering
Kalavakkam / INDIA

Profile

Ph.D. from the Department of Mathematics of Anna University, specializing in Fluid Mechanics. Master's degree from Madurai Kamaraj University. Bachelor's degree from Gandhigram Deemed University. Published more than 20 research papers in international and national journals. Currently, guiding three Full-time Ph.D. scholars.

Research Interests

Computational Fluid Mechanics, Heat and Mass Transfer, Newtonian and non-Newtonian flow, Artificial Intelligence, Triangular Fuzzy Number, Neutrosophic Sets, Neutrosophic Graphs.

List of Publications in Neutrosophics

Said Broumi, R. Sundareswaran, M. Shanmugapriya, Assia Bakali, Mohamed Talea. "Theory and Applications of Fermatean Neutrosophic Graphs," *Neutrosophic Sets and Systems*, Vol. 50, 2022.

Said Broumi, Raman Sundareswaran, Marayanagaraj Shanmugapriya, Giorgio Nordo, Mohamed Talea, Assia Bakali, and Florentin Smarandache. "Interval-Valued Fermatean Neutrosophic Graphs," *Decision Making: Applications in Management and Engineering*, DOI: 10.31181/dmame0311072022b (2022).

R. Sundareswaran, P. Sangeetha, M. Shanmugapriya, R. Sathyaprakash, M. Thaga Sheriff, M. Benasir, A. Shri Thrisha. "Assessment of structural cracks in buildings using single-valued neutrosophic DEMATEL model," *Material Today Proceedings*, Volume 65, Part 2, 2022, Pages 1078-1085.

A. Anirudh, R. Aravind Kannan, R. Sriganesh, R. Sundareswaran, S. Sampath Kumar, M.Shanmugapriya, Said Broumi. "Reliability Measures in Neutrosophic Soft Graphs," *Neutrosophic Sets and Systems*, Vol. 49, 2022.

Akanksha Singh

Assistant Professor
Institute of Sciences
Chandigarh University
Gharuan, Ludhiana
Punjab / INDIA

Profile

Bachelor of Science from Panjab University (PU), Chandigarh, India (2001 –2004). Masters of Science in Mathematics (2004 – 2006) from Himachal Pradesh University (HPU), Shimla, India. Bachelor of Education (B.Ed.) in Science & Mathematics (2006-2007) from Punjabi University, Patiala, India. Master of Business Administration, HRM (2010-2012) from Punjab Technical University Jalandhar, India. Ph.D. in Mathematics from Thapar Institute of Engineering & Technology (2017-2021), Patiala, India with the thesis: "Efficient methods for solving some decision-making problems under fuzzy environment and its extensions".

Research interests

• Decision Making Theory, Multi-Attribute Decision Making (MADM), Multi-Criteria Decision Making (MCDM), Aggregation Operator.

• Fuzzy Optimization Techniques, Linear Programming Problems, Non-Linear Programming Problems, Transportation Problems, Shortest Path Problems, Assignment Problems in various environment of the Fuzzy Set and its extensions (Intuitionistic Fuzzy Set, Pythagorean Fuzzy Set, Soft Set, Neutrosophic Set, Connection Numbers, Hesitant Fuzzy Sets, Quadripartition Fuzzy Sets, Penta-Partitioned Fuzzy Sets, Plithogenic Fuzzy Sets, Hypersoft Set etc.)

• Linear programming problems, Non-linear programming problems Transportation problems, Shortest path problems, Assignment problems.

Neutrosophic Research

Applying Neutrosophics in solving problems related to optimization technique. Exploring since 2017 the neutrosophic sets and its extensions, such as-Single-Valued Neutrosophic Sets, Interval-Valued Neutrosophic Sets, Trapezoidal Neutrosophic Sets, Neurosophic Numbers, Quadripartioned Neutrosophic Sets, Penta-partitioned Neutrosophic Sets, Plithogenic Sets, Hyper Soft Sets.

List of Publications in Neutrosophics

Singh, A., Kumar, A., Appadoo, S. S. "Modified approach for optimization of real life transportation problem in neutrosophic environment." *Mathematical Problems in Engineering*, Article ID 2139791, 9 p., 2017.

Singh, A. "Modified method for solving non-linear programming for multi-criteria decision making problems under interval neutrosophic set environment." *Mathematical Sciences International Research Journal*, 7, 41-52, 2018.

Singh, A., Kumar, A., Appadoo, S. S. "A novel method for solving the fully neutrosophic linear programming problems: Suggested modifications." *Journal of intelligent & fuzzy systems*, 37(1), 885-895, 2019.

Singh, A., & Bhat, S. A. "A novel score and accuracy function for neutrosophic sets and their real-world applications to multi-criteria decision-making process." *Neutrosophic Sets and Systems*, 41, 168-197, 2021.

A. Singh, "A Novel Shortest Path Problem using Dijkstra Algorithm in Interval-Valued Neutrosophic Environment." International Conference on Smart Generation Computing, Communication and Networking (SMART GENCON), Bangalore, India, 2022. DOI: 10.1109/SMARTGENCON56628.2022.10083619.

Atiqa Siraj

Student
University of Lahore
Department of Mathematics and Statistics
Lahore / PAKISTAN

Profile

B.S. degree in Mathematics from University of Education, Lahore, Pakistan. M. Phil degree in Mathematics from the University of Lahore, Lahore, Pakistan. Serving as Subject Specialist (Mathematics) at the School for Girls, Lahore, Pakistan.

Research Interest

Fuzzy Mathematics, Soft Set Theory, Neutrosophic Sets, Novel Hybrid Structures and Topology, Decision-Making Problems, Artificial Intelligence, Business Analysis, Computational Intelligence, Pattern Recognition.

List of Publications in Neutrosophics

Siraj, Atiqa, Khalid Naeem, Broumi Said. "Pythagorean m-polar Fuzzy Neutrosophic Metric Spaces." *Neutrosophic Sets and Systems* 53, 562-579, 2023. https://digitalrepository.unm.edu/nss_journal/vol53/iss1/33

Siraj, A., Fatima, T., Afzal, D., Naeem, K., Karaaslan, F. "Pythagorean m-polar Fuzzy Neutrosophic Topology with Applications." *Neutrosophic Sets and Systems,* 48, 251-290, 2022. http://fs.unm.edu/NSS2/index.php/111/article/view/2103

Somen Debnath

Post Graduate Teacher
Umakanta Academy
Agartala, Tripura / INDIA

Profile

Ph.D degree in Mathematics (2020) from Tripura University, Suryamaninagar, India, under the supervision of Prof. Anjan Mukherjee, with the thesis "Generalization of fuzzy soft matrices and their applications". Currently, working as a Post Graduate Teacher in Mathematics at Umakanta Academy.

Research Interest

Fuzzy set, Soft Set, Hypersoft Set, Neutrosophic Set, Game Theory, Decision Making.

List of Publications in Neutrosophics

Debnath, S. "About rough neutrosophic soft sets theory and study their properties." *Science Journal of Applied Mathematics and Statistics*, 7(6), 95-102, 2019.

Debnath, S. "Application of interval-valued neutrosophic soft sets in decision making based on game theory." *Songlanakarin Journal of Science and Technology*, 43(4), 1103-1114, 2020.

Debnath, S., & Mukherjee, A. "A note on neutrosophic polynomials and some of its properties." *International Journal of Neutrosophic Science*, 10(1), 23-35, 2020.

Debnath, S. "Neutrosophication of statistical data in a study to assess the knowledge, attitude and symptoms on reproductive tract infection among women." *Journal of Fuzzy Extension and Applications*, 2(1), 33-40, 2021.

Debnath, S. "Quadripartitioned Single Valued Neutrosophic Pythagorean Dombi Aggregate Operators in MCDM Problems." *Neutrosophic Sets and Systems*, 46, 180-207, 2021.

Debnath, S. "Impact of Complex Interval Neutrosophic Soft Set Theory in Decision making By Using Aggregate Operator." *Neutrosophic Sets and Systems*, 45(1), 218-244, 2021.

Debnath, S. "Generalized Pythagorean Neutrosophic Sets in the Study of Group Theory." *Neutrosophic Sets and Systems*, 47, 298-315, 2021.

Debnath, S. "A New Approach to Group Decision Making Problem in Medical Diagnosis using Interval Neutrosophic Soft Matrix." *Neutrosophic Sets and Systems*, 45(1), 162-180, 2021.

Debnath, S. "Application of Intuitionistic Neutrosophic Soft Sets in Decision Making Based on Game Theory." *International Journal of Neutrosophic Science*, 14(2), 83-97, 2021.

Debnath, S. “An application of reduced interval neutrosophic soft matrix in medical diagnosis.” *Decision-Making with Neutrosophic Set: Theory and Applications in Knowledge Management*, 195-217, 2021.

Debnath, S. “Fuzzy hypersoft sets and its weightage operator for decision making.” *Journal of Fuzzy Extension and Applications*, 2(2), 163-170, 2021.

Debnath, S. “Neutrosophic fuzzy soft matrix theory and its application in group decision making.” *Handbook of Research on Advances and Applications of Fuzzy Sets and Logic*, IGI Global, 741-770, 2022.

Debnath, S. “Fuzzy quadripartitioned neutrosophic soft matrix theory and its decision-making approach.” *Journal of Computational and Cognitive Engineering*, 1(2), 88-93, 2022.

Debnath, S. “Quadripartitioned single valued neutrosophic sets with covering based rough sets and their matrix representation.” *Songklanakarin Journal of Science & Technology,* 44(4), 1018-1031, 2022.

Debnath, S. “Interval-valued intuitionistic hypersoft sets and their algorithmic approach in multi-criteria decision making.” *Neutrosophic Sets and Systems*, 48, 226-250, 2022.

Debnath, S. “Interval-valued intuitionistic quadripartitioned neutrosophic soft sets with T, F, C, and U as dependent neutrosophic components and their application in decision-making problem.” *Journal of New Results in Science*, 11(1), 26-47, 2022.

Debnath, S. “Quadripartitioned Single-Valued Neutrosophic Parameterized Soft Sets and Their Applications in Decision Making.” *Annals of Optimization Theory and Practice*, 2022.

Debnath, S. “Introduction to Restricted Neutrosophic Set and Its Application.” *International Journal of Neutrosophic Science*, 18(2), 227- 242, 2022.

Debnath, S. “Inverse Single-Valued Neutrosophic Soft Set and Its Application.” *Handbook of Research on Advances and Applications of Fuzzy Sets and Logic*, IGI Global, 716-740, 2022.

Debnath, S. “Neutro Boolean Algebra: An Extension of Classical Boolean Algebra.” *Theory and Applications of NeutroAlgebras as Generalizations of Classical Algebras*, IGI Global, 76-89, 2022.

Debnath, S. “Single-Valued Neutrosophic Covering-Based Rough Set Model Over Two Universes and Its Application in MCDM.” *Neutrosophic Sets and Systems*, 53(1), 482-507, 2023.

Debnath, S. “Linear Diophantine Neutrosophic Sets and Their Properties.” *Neutrosophic Sets and Systems*, 53(1), 622-640, 2023.

Debnath, S., Singh, P. K. “Neutro Geometric Topology and Its Examples.” *NeutroGeometry, NeutroAlgebra, and SuperHyperAlgebra in Today's World*, IGI Global, 116-130, 2023.

Debnath, S., Kamacı, H. “Hypersoft game theory models and their applications in multi-criteria decision making.” *Pamukkale University Journal of Engineering Sciences*, in press.

R. Sundareswaran

Associate Professor
Sri Sivasubramaniya Nadar College of Engineering
Kalavakkam / INDIA

Profile

Bachelor's degree in Mathematics from Thaigarajar College of Arts and Science, affiliated to Madurai Kamaraj University, Madurai. M.Sc. (Mathematics) and M.Phil (Mathematics) in Saraswathi Narayanan College affiliated to Madurai Kamaraj University, Madurai. More than 20 years of teaching experience and 12 years' experience as a full-time research fellow. Senior Research fellow in the "National Center for Advanced Research in Discrete Mathematics (n-CARD MATH)", sponsored by the Department of Science and Technology (DST), New Delhi. Ph.D with the research project "Domination Integrity in Graphs" funded by Dept. of Science & Technology, Govt. of India.

Research Interest

Discrete Mathematics, Graph Theory, Combinatorics, Fuzzy Sets, Fuzzy graphs, Neutrosophic Sets, Neutrosophic Graphs.

List of Publications in Neutrosophics

R. Sumathi, R. Sujatha, R. Sundareswaran, Sankar Sahoo, Madhumangal Pal, Anita Pal. "Nodes in fuzzy block with application." *Journal of Intelligent & Fuzzy Systems*, 35, 4785–4793, 2018. DOI:10.3233/JIFS-18347.

M. Saravanan, R. Sujatha, R. Sundareswaran, Sankar Sahoo, Madhumangal Pal, "Concept of integrity and its value of fuzzy graphs." *Journal of Intelligent and Fuzzy Systems* 34(2), 2429–2439, 2018. DOI: 10.3233/JIFS-171685.

R. Sathyaprakash, R. Sundareswaran, P. Sangeetha, M. Shanmugapriya, M. Thaga Sheriff, M. Benasir, A. Shri Thrisha. "Assessment of structural cracks in buildings using single-valued neutrosophic DEMATEL model." *Material Today Proceedings*, 65(2), 1078-1085, 2022.

Balaraman Ganesan, Sundareswaran Raman, Madhumangal Pal. "Strong domination integrity in graphs and fuzzy graphs." *Journal of Intelligent & Fuzzy Systems*, 43(3), 2619-2632, 2022.

M. Vahini, R. Sundareswaran, V. Mahesh, Said Broumi, R. Dhanush Babu. "Diabetic Neuropathy Severity Assessment: A Neutrosophic approach." *International Journal of Neutrosophic Science*, 18(4), 291-300, 2022.

R.V. Jaikumar, R. Sundareswaran, G. Balaraman, P K Kishore Kumar, Said Broumi. "Vulnerability Parameters in Neutrosophic Graphs." *Neutrosophic Sets and Systems*, 48, 2022.

Said Broumi, R. Sundareswaran, M. Shanmugapriya, Assia Bakali, Mohamed Talea. "Theory and Applications of Fermatean Neutrosophic Graphs." *Neutrosophic Sets and Systems*, 50, 2022.

Said Broumi, Raman Sundareswaran, Marayanagaraj Shanmugapriya, Giorgio Nordo, Mohamed Talea, Assia Bakali, Florentin Smarandache. "Interval-Valued Fermatean Neutrosophic Graphs." *Decision Making: Applications in Management and Engineering*, 2022. DOI: 10.31181/dmame0311072022b.

R. Sumathi, R. Sujatha, R. Sundareswaran. "Best Fuzzy Graph with Application in Fuzzy Social Network." *AIP Conference Proceedings* 2393, 020156, 2022. https://doi.org/10.1063/5.007419

R. Sundareswaran, S. Vijayan, Sneha S., Srinath Venkatesh, Vishnu Prasad P.R., Viswapriya G., Lakshmi Narayan Mishra, Said Broumi. "Failure analysis of pump piping system using DEMATEL SVN methodology." *Neutrosophic Sets and Systems*, 53, 2023.

V. Jaikumar, R. Sundareswaran, Said Broumi. "Integrity and Domination Integrity in Neutrosophic Soft Graphs." *Neutrosophic Sets and Systems*, 53, 2023.

Apostolos Syropoulos

Independent Scholar
Informatics Teacher / GREECE

Profile

B.Sc. in Physics from the University of Ioannina, Greece. M.Sc. in Computer Science from the University of Göteborg, Sweden. Ph.D. in Theoretical Computer Science from the Democritus University of Thrace, Xanthi, Greece. Authored or co-authored 12 books, over 60 papers and articles, and co-edited 2 books.

Research Interests

Theory of Computation, Category Theory, Fuzzy Set Theory, Vagueness, Digital Typography, Neutrosophic Sets.

List of Publications in Neutrosophics

Syropoulos, A., Giakati, I., Prountzos, I., & Tatsiou, E. "Introducing Vagueness in the Mathematical Curriculum of Secondary Education: Experience in Greece." In S. Broumi (Ed.), *Handbook of Research on the Applications of Neutrosophic Sets Theory and Their Extensions in Education*, IGI Global, 205-214, 2023.

Vătuiu R. Andrușa

Scriitor, publicist
Orșova, Mehedinți / ROMANIA

Profile

Graduated from the Polytechnic University of Timișoara, Romania, the Faculty of Engineering Hunedoara, Romania, and the Romanian Academy of Management, Bucharest, Romania. Professionally, stood out for the contributions to the development of Romanian telecommunications, among which an innovation - *System for automatic verification of call boxes for telephone systems with 24 channels - ST 24*, and the work *Designing and building urban telecommunications networks*. Contributed to the introduction of computer technology in telecommunications units and led the telephone digitization works in the Orșova sector. Site manager for seven telecommunication development works.

Over the years, carried out a rich publishing activity as editor, caricaturist, technical editor, deputy editor-in-chief, editor-in-chief at various Romanian publications. Beyond publishing and literary work, he also partook in a scientific activity in which we can find neutrosophic research and neutrosophic applications in many different scientific subjects: literary paradoxism studies, social, administrative, historical, etc.

List of Publications in Neutrosophics

Vătuiu R. Andrușa, Florentin Smarandache. "Paradoxismul civic (Nonsensul sensului)", Primus, Oradea 2016

Vătuiu R. Andrușa, Florentin Smarandache. "Easier to break a Neutrosophic Complex Dynamic System from Inside than from Outside (Mai ușor să distrugi un sistem dinamic complex din interior decât din exterior)", ediție bilingvă engleză - română, Pons Edition, Bruxelles 2017

Vătuiu R. Andrușa, Florentin Smarandache. "Evoluție Neutrosofică în spirală sau Divinul este în Om (Human Neutrosophic Evolution in Spiral or The Divine is in the Man)", ediție bilingvă română – engleză, Kalendarium, Oradea 2019

M. Vigneshwaran

Assistant Professor
Department of Mathematics
Kongunadu Arts and Science College (Autonomous)
Coimbatore / INDIA

Profile

Bachelor of Science Degree in Mathematics in 2004 from Government Arts College (Autonomous), Coimbatore, Tamil Nadu, India. Master of Science Degree, in 2007, a Master of Philosophy Degree, in 2009, PGDCA degree in January 2013. Ph.D. in Mathematics from Kongunadu Arts and Science College (Autonomous), Coimbatore, Tamil Nadu, India.

Published more than 60 research articles in indexed journals. Supervised four Ph.D and eight M.Phil scholars. Completed a research project entitled "**gα-closed and **gα-open sets in the digital plane" sponsored by University Grants Commission, Southern Eastern Regional Office, Hyderabad from 2013 to 2015.

Research Interests

General Topology, Fuzzy Topology, Digital Topology, Nano Topology, Neutrosophic Topology.

List of Publications in Neutrosophics

S.Saranya and M. Vigneshwaran. "Neutrosophic b*gα-interior and Neutrosophic b*gα clouser," *American International Journal of Research in Science, Technology, Engineering & Mathematics*, Special issue, January 2019, 145-149.

T. Nandhini and M. Vigneshwaran. "Nαg# -closed sets in Neutrosophic topological spaces," *American International Journal of Research in Science, Technology, Engineering & Mathematics*, Special issue, January 2019, 370-373.

S.Saranya and M.Vigneshwaran "Neutrosophic b*gα-Closed Sets," *Neutrosophic Sets and Systems*, 24, 2019, 90-99.

S. Saranya, M. Vigneshwaran. "Design and Development of .Net Framework to Deal with Neutrosophic *gα Sets," *International Journal of Engineering and Advanced Technology* (IJEAT), Volume-8, Issue-3S, February 2019, 852-857.

S. Saranya, M. Vigneshwaran. "C# Application to Deal with Neutrosophic α-Closed Sets," *Journal of Advanced Research in Dynamical and Control Systems*, 11, Special Issue, 2019, 1347-1355.

S. Saranya and M. Vigneshwaran ".NET Framework to deal with Neutrosophic b*gα-Closed Sets in Neutrosophic Topological Spaces," *Neutrosophic Sets and Systems*, Vol. 29, 2019, 40-61.

T. Nandhini and M Vigneshwaran. "Nαg#□-open map, Nαg#-closed map and Nαg#-homeomorphism in neutrosophic topological spaces,: *Neutrosophic Sets and Systems*, Vol. 29, 2019,186-196.

Dhatchinamoorthy Vinoth

Research Scholar
Vellore Institute of Technology
Vellore / INDIA

Profile

Bachelor's Degree in Mathematics from Sacred Heart College, Tirupattur in 2014. Master's degree at Islamiah College, Vaniyambadi in 2017. M.Phil at the same institution. Research Scholar at the Vellore Institute of Technology, Vellore.

https://scholar.google.com/citations?hl=en&user=3DH2k5cAAAAJ

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https://www.researchgate.net/profile/Vinoth-Id

Research Interests

Neutrosophic Sets, Computer Vision, Neutrosophic Image Processing, Machine Learning.

List of Publications in Neutrosophics

Dhatchinamoorthy, V., & Devarasan, E. (2023). “An Analysis of Global and Adaptive Thresholding for Biometric Images Based on Neutrosophic Overset and Underset Approaches.” *Symmetry*, 15(5), 1102.

“A Novel Approach of Residue Neutrosophic Technique for Threshold Based Image Segmentation”

Sudhakar, V. J., Mohamed, A. A., & Vinoth, D. (2016). “Interval valued signed neutrosophic graph.” Infinite Study.

Sudhakar, V. J., Yuvaraj, G., & Kumar, V. N. (2019). “Self-Centered Interval Valued Neutrosophic Graph.” Infinite Study.

Michael Gr. Voskoglou

Emeritus Professor
School of Engineering
Graduate Technological Educational Institute
University of Peloponnese / GREECE

Profile

B.Sc., M.Sc., M.Phil., Ph.D. in Mathematics, an Emeritus Professor of Mathematical Sciences at the School of Engineering of the Graduate Technological Educational Institute (T.E.I.) of Western Greece. Full Professor at the same Institute from 1987 to 2010. Instructor at the Hellenic Open University, at the Mathematics Department of the University of Patras, at the Schools of Primary and Secondary In – Service Teachers' Training in Patras and a teacher of mathematics at the Greek Public Secondary Education (1972-1987). Visiting Researcher at the Institute of Mathematics and Informatics of the Bulgarian Academy of Sciences in Sofia for three years (1997-2000), under sabbatical. Lectured as a Visiting Professor in postgraduate courses at the School of Management of the University of Warsaw (2009), at the Department of Operational Mathematics of the University of Applied Sciences in Berlin (2010) and at the Mathematics Department of the National Institute of Technology of Durgapur (2016) under a grant from the Indian Government.

Author/editor of 18 books in Greek and in English language and of more than 600 papers published in reputed journals, book chapters and proceedings of conferences of more than 30 countries in the five continents, with more than 2000 citations from other researchers.

Former Editor in Chief of the "International Journal of Applications of Fuzzy Sets and Artificial Intelligence" (2011-2020) and currently reviewer of the American Mathematical Society, Editor in Chief of the journal "Construction, Design, Maintenance", and member of the Editorial Board of many other international scientific journals.

Conducted five programs of technological research on applications of quantitative methods to Management (1989–1997). Supervised many student dissertations. External examiner of Ph.D. dissertations at universities from Egypt, India and Saudi Arabia. Recipient of many scholarships, distinctions and honorary awards and member of many scientific associations (AMS, HMS, ICTMA, IETI, etc.)

Research Interests

Algebra, Fuzzy Logic, Markov Chains, Artificial Intelligence, Mathematics Education.

List of Publications in Neutrosophics

"A Hybrid Method For The Assessment of Analogical Reasoning Skills" (with S. Broumi), *Journal of Fuzzy Extension and Applications*, 3(2), 152-157, 2022

"Managing The Existing in Real Life Indeterminancy", *IARAS International Journal of Mathematical and Computational Methods*, 7, 29-34, 2022.

"Managing The Uncertainty: From Probability To Fuzziness, Neutrosophy And Soft Sets," *Transactions on Fuzzy Sets and Systems*, 1(2), 46- 58, 2022.

"Uncertainty vs Indeterminacy: A Journey From Fuzziness To Neutrosophy," *American Journal of Applied Mathematics and Statistics*, 10(2), 65- 68, 2022.

"A Combined Use of Soft And Neutrosophic Sets for Assessment with Qualitative Grades," *Journal of Neutrosophic and Fuzzy Systems*, 4(1), 15-20, 2022 (with S. Broumi & F. Smarandache) and in F. Smarandache (Ed.), *Collected Papers (on Neutrosophics and other Topics)*, Vol. XIV, 582-587, Global Knowledge Publ. House, Miami, USA, 2022

"A Hybrid Method for Assessment with Linguistic Grades," *Oriental Journal of Physical Sciences*, 7(1), 26-29, 2022.

"Neutrosophic Sets as Tools in Assessment Processes," *Computer Science Journal*, 46(2), 28-33, 2022.

"Fuzziness, Indeterminacy and Soft Sets: Frontiers And Perspectives," *Mathematics*, 10, 3909, 2022.

"A Hybrid Method For Assessing Student Mathematical Modelling Skills Under Fuzzy Conditions," *Computational and Applied Mathematics & Computer Science*, 2, 106-114, 2022.

"From Zadeh's Fuzziness To Smarandache's Neutrosophy: A Review," *Applied Mathematics Computational Science and Systems Engineering*, 4, 98-104, 2022.

"A Hybrid Approach For Assessing Problem Solving Skills Under Fuzzy Conditions," *Information Theories and Applications*, 29(2), 103-128, 2022

"A Hybrid Method For Assessing Student Mathematical Skills," *Transactions on Fuzzy Sets and Systems*, 2(1), 61-71, 2023.

"An Application Of Neutrosophic Sets To Decision Making," *Neutrosophic Sets and Systems*, 53, 1-9, 2023.

"Decision Making in Neutrosophic Environment," *Proof*, 3, 1-7, 2023

"Assessing The Effectiveness Of Flipped Learning For Teaching Mathematics To Management Students," *American Journal of Applied Mathematics and Statistics*, 11(1), 30-34, 2023.

"Assessing The Effectiveness of The Apos/Ace Method For Teaching Mathematics To Engineering Students," *WSEAS Transactions on Advances in Engineering Education*, 20, 37-43, 2023.

"Fuzzy Assessment of The "5 E's" Instructional Treatment For Teaching Mathematics To Engineering Students," *Computer Science & Engineering: An International Journal*, 13(2), 1-9, 2023.

"Neutrosophic Assessment of Student Mathematical Skills," *Physical and Mathematical Education*, 38(2), 22-26, 2023.

"Use of Soft and Neutrosophic Sets for A Mathematical Representation of The Ethical Rules," in F. Smarandache & M. Al-Tahan (Eds), *NeutroGeometry, NeutroAlgebra, and SuperHyperAlgebra*, Chapter 5, pp. 97-115, IGI Global, Hersey, PA., USA 2023 (with J. Feuerstein and E. Athanassopoulos).

Mohd Anas Wajid

Assistant Professor
Department of Computer Science & Application
Sharda University
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Profile

PhD degree in Computer Science from Aligarh Muslim University, India. Awarded with the MITACS-SICI Globalink Research Award by Mitacs in collaboration with HRD ministry, Government of India to do a project at the University of Athabasca, Edmonton, Alberta, Canada. ACM India Council named him an ACM India Anveshan Setu Fellow, and he received a fellowship to conduct a part of his research at IIIT-Delhi. Recipient of Maulana Azad National Fellowship (SRF) from UGC, Government of India.

Research papers in refereed journals such as *Journal of Cloud Computing, Nature Scientific Reports, Journal of Computational Intelligence & Neuroscience, Neutrosophic Sets & Systems*. Co-authored one book and two patents. Academic as well as industrial experience.

Research Interests

Soft Computing, Machine Learning, Data Science, Information Retrieval, Neutrosophy.

List of Publications in Neutrosophics

Mohd Anas Wajid, A. Zafar, M. S. Wajid, and H. Terashima-Marín, "Neutrosophic cnn based image and text fusion for multimodal classification," *Journal of Intelligent Fuzzy Systems*, 2023, SCI- I.F=2.0, Q2, DOI 10.3233/JIFS-223752.

Mohd Yasir, Aasim Zafar and Mohd AnasWajid, "Nep-2020's implementation execution: A study conducted using neutrosophic pestel analysis," *International Journal of Neutrosophic Science*, 2021, Scopus- I.F=2.1, Q3.

Mohd AnasWajid and Z. Aasim, "Neutrosophic image segmentation: An approach for the treatment of uncertainty in multimodal information systems," *International Journal of Neutrosophic Science*, 2022, Scopus- I.F=2.1, Q3.

Mohd AnasWajid and A. Zafar, "Multimodal fusion: A review, taxonomy, open challenges, research roadmap and future directions," *Neutrosophic Sets and Systems*, vol. 45, no. 1, p. 8, 2021, ESCI- I.F=3.74, Q2.

Mohd AnasWajid and A. Zafar, "Pestel analysis to identify key barriers to smart cities development in india," *Neutrosophic Sets and Systems*, vol. 42, pp. 39–48, 2021, ESCI- I.F=3.74, Q2.

M. S. Wajid, H. Terashima-Marin, P. N. Paul Rad, and Mohd AnasWajid, "Violence detection approach based on cloud data and neutrosophic cognitive maps," *Journal of Cloud Computing*, vol. 11, no. 1, pp. 1–18, 2022, SCI- I.F=3.41, Q1.

M. S. Wajid and Mohd AnasWajid, "The importance of indeterminate and unknown factors in nourishing crime: A case study of South Africa using neutrosophy," *Neutrosophic Sets and Systems*, vol. 41, no. 2021, p. 15, 2021, ESCI- I.F=3.74, Q2.

Aasim Zafar and Mohd AnasWajid, "A mathematical model to analyze the role of uncertain and indeterminate factors in the spread of pandemics like covid-19 using neutrosophy: A case study of India," *Neutrosophic Sets and Systems,* vol. 38, 2020, ESCI- I.F=3.74, Q2.

Aasim Zafar and Mohd AnasWajid, "Neutrosophic cognitive maps for situation analysis" *Neutrosophic Sets & Systems*, vol. 29, 2019, ESCI- I.F=3.74, Q2.

Conference Presentation

Mohd Anas Wajid and A. Zafar. "A multimodal approach of information access and retrieval using neutrosophic sets," in Emerging Trends in IoT and Computing Technologies: Proceedings of the International Conference on Emerging Trends in IoT and Computing Technologies (ICEICT-2022), April 22-23, 2022, Lucknow, India, Taylor & Francis, 2022, Scopus, pp. 382–397.

Books

"Soft Computing & Machine Learning: A Fuzzy and Neutrosophic View of Reality" proposed to the book series "Computational Methods for Industrial Applications" in CRC Press Taylor & Francis. (Accepted)

Mohammad Saif Wajid

Research Scholar
University of Texas
San Antonio / UNITED STATES

Profile

Bachelor's degree in Computer Science & Engineering from Dr. A.P.J. Abdul Kalam Technical University, India, and Masters's Degree from BBD University, India. Enrolled as a Ph.D. student in Computer Science at Tecnologico de Monterrey, Monterrey Campus, Mexico. Currently, working as a Visiting Research Scholar at University of Texas, San Antonio, USA. For the past eight years, Assistant Professor in Computer Science & Engineering Department.

Published more than 25 research papers in international journals and conferences, and supervised eight Master's Thesis.

Research Interests

Neutrosophic Research, Artificial Intelligence, Deep Learning, Knowledge Graph, Machine Learning, Computer Vision, Digital Twin.

List of Publications in Neutrosophics

Wajid, Mohd Saif, Mohd Anas Wajid. "The Importance of Indeterminate and Unknown Factors in Nourishing Crime: A Case Study of South Africa Using Neutrosophy." *Neutrosophic Sets and Systems* 41, 15, 2021.

Morteza Yazdani

Senior Reseacher
Universidad Internacional de Valencia
Valencia / SPAIN

Profile

Professor & Senior Researcher at Universidad Internacional de Valencia. Previously worked at ESIC University and as full time professor at Universidad Loyola Andalucia, Seville for two years. Associate researcher for RUC-APS project at University of Toulouse and IRIT institute. Research in Management and Operations. Published more than 100 articles.

Research Interests

Decision Making Theories, Supply Chain Management, Sustainable Development.

List of Publications in Neutrosophics

Yazdani, M., Torkayesh, A. E., Stević, Ž., Chatterjee, P., Ahari, S. A., Hernandez, V. D. "An interval valued neutrosophic decision-making structure for sustainable supplier selection." *Expert Systems with Applications*, 183, 115354, 2021.

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Profile

BSc (2014), Msc degree (2016) and PhD (2020) from Mathematics Department, Kafkas University, in Kars, Turkey. Currently, Assistant Professor in the Department of Mathematics at the University of the Kafkas, Turkey.

Research Interests

Fuzzy Sets, Rough Sets, Soft Sets, Neutrosophic Sets.

List of Publications in Neutrosophics

Ozturk, T. Y., Gündüz, Ç., & Bayramov, S. (2018). "A Study Of The Fundamentals of Neutrosophic Soft Sets." Presented At The IX International Conference Of The Georgian Mathematical Union .

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Profile

Professor at Computer Science Department, Aligarh Muslim University, Aligarh, India. Master in Computer Science and Applications and Ph.D. in Computer Science from Aligarh Muslim University, Aligarh, India. Presented many papers in National and International Conferences and published various research papers in international journals. Teaching and research experience of more than 27 years both at national and international level.

He has executed NMEICT-EdRP project funded by MHRD, Govt. of India as Co-PI, which was executed in consortium mode with AMU being one of the partner Institute (with a share of Rs 1.2 crore) and IIT, Kanpur being the Coordinating Institute. AMU successfully contributed two major outcomes, namely, a cloud-based multi-lingual and multi-Institutional Library Management System (LibMS) and Election Management System (EMS) to this project. During his 5-year tenure of International teaching assignment at King Abdulaziz University (KAU), Jeddah, he has executed three research projects, two DSR funded (SR 50,000 each) as PI and one funded by KACST (SR 2 Million) as Co-PI. He was awarded with "Excellence in Teaching Award" at KAU, Jeddah.

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Research Interests

Sensor Networks, Image Processing, Video Analytics, Information Retrieval, e-Systems, e-Security, Virtual Learning Environment, Neuro-Fuzzy and Soft Computing, Software Engineering, Computer Networks, Network Security, Software Engineering, Database Management Systems, Computer Programming.

List of Publications in Neutrosophics

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Books

"Soft Computing & Machine Learning: A Fuzzy and Neutrosophic View of Reality" proposed to the book series "Computational Methods for Industrial Applications" in CRC Press Taylor & Francis. (Accepted)

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Profile

Faculty Member at Department of Mathematical Statistics, Faculty of Science, University of Aleppo, Aleppo, Syria since 2019. PhD in Mathematical Statistics and Programming, Department of Mathematical Statistics, Faculty of Science, University of Aleppo, 2017-2019. MSc in Mathematical Statistics and Programming, Department of Mathematical Statistics, Faculty of Science, University of Aleppo, 2013-2016. BSc in Mathematical Statistics, Department of Mathematical Statistics, Faculty of Science, University of Aleppo, 2009-2013.

Research Interests

Probability Theory, Queueing Theory, Distributions Theory, Fuzzy Probability Theory, Fuzzy Queueing Theory, Neutrosophic Probability, Neutrosophic Statistics, Machine Learning.

List of Publications in Neutrosophics

Mohmed Bisher Zeina, Mohammad Abobala. "On the Refined Neutrosophic Real Analysis Based on Refined Neutrosophic Algebraic AH-Isometry." *Neutrosophic Sets and Systems*, Vol. 54, 2023.

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Neutrosophic set, neutrosophic logic, neutrosophic probability, neutrosophic statistics, neutrosophic measure, neutrosophic precalculus, neutrosophic calculus and so on are gaining significant attention in solving many real life problems that involve uncertainty, impreciseness, vagueness, incompleteness, inconsistent, and indeterminacy.

In the past years the fields of neutrosophics have been extended and applied in various fields, such as: artificial intelligence, data mining, soft computing, decision making in incomplete / indeterminate / inconsistent information systems, image processing, computational modelling, robotics, medical diagnosis, biomedical engineering, investment problems, economic forecasting, social science, humanistic and practical achievements.

There are about 7,000 neutrosophic researchers, within 89 countries around the globe, that have produced about 4,000 publications and tenths of PhD and MSc theses, within more than two decades. Many neutrosophic researchers got specialized into various fields of neutrosophics: neutrosophic triplet, quadruple algebraic structures, neutrosophic image processing, neutrosophic optimization, neutrosophic bibliometrics, neutrosophic BCK/BCI-algebras, neutrosophic structures, neutrosophic topology, neutrosophic cognitive maps, neutrosophic statistics, neutrosophic similarity measures, neutrosophic quadruple structures, neutrosophic algebraic structures, neutrosophic graphs, neutrosophic linear and non-linear programming, neutrosophic crisp topology.

This is the fifth volume of the *Encyclopedia of Neutrosophic Researchers*, edited from materials offered by the authors who responded to the editor's invitation, with an introduction contains a short history of neutrosophics, together with links to the main papers and books.

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